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Radio

Sets ————— *Parts*



Westinghouse 55

Effective November, 1925
Prices subject to change without notice

A. Carey & Sons

274 King St. East

Reg. 8578-8579 Hamilton, Ont.

RADIO

SETS - PARTS



Effective November, 1925

*Prices subject to change
without notice*

T. H. READ,
240 BOLD ST.
HAMILTON ONT.

A. Carey & Sons

274 King St. East

Reg. 8578-8579

Hamilton, Ont.

Important Notice

RADIO MERCHANTISE NOT SUBJECT TO RETURN FOR CREDIT
RADIO MATERIAL CLAIMED DEFECTIVE OR TO BE RETURNED
FOR REPAIRS

Write us for permission to return merchandise under this classification. On receipt of merchandise, if found to be defective due to faulty manufacture, we will replace or repair without charge.

If upon examination merchandise is found to be inoperative not due to faulty manufacture, such repairs will be charged for, plus material and returned.

Defective Radiotrons.—If a tube is defective due to faulty manufacture, the manufacturers, after examination will replace same with a new tube. All tubes returned for replacement must be passed on by the manufacturers.

NO DEDUCTIONS WILL BE ALLOWED FROM INVOICES FOR RADIOTRONS OR OTHER MERCHANTISE RETURNED UNDER ANY CONDITION

Terms

PRICES

The prices shown are the latest correct list prices at time of going to press, but are inserted for information only and are subject to change without notice. Customers will find our prices in step with the market at all times based on quality and service. All orders received will be billed at prevailing market regardless of published prices.

TERMS

Our terms are 30 days net, (2% cash, 10 days, payable by cheque) from date of invoice, f. o. b. our store, to concerns or persons of approved credit rating.

SHIPMENTS

Where customer does not state definitely how goods should be shipped or routed, we will use our own judgment in selecting route.

LOSS OR DAMAGE IN TRANSIT

We do not hold ourselves responsible for goods lost or damaged in transit. Any such claims should be referred to the transportation company handling the shipment. However, we will be glad to co-operate and lend our assistance to secure an adjustment.

SHORTAGE

Any shortage should be promptly reported.

All Radio Goods carried are of the highest quality, and guaranteed by both ourselves and the manufacturers.

Effective November, 1925. Prices Subject to Change Without Notice

We are Distributors for the Following Manufacturers of High-class Radio Sets and Parts

Canadian Westinghouse Co., Ltd., Hamilton, Ont.

Canadian Brandes Co., Toronto, Ont.

Canadian National Carbon Co., Toronto, Ont.

Diamond State Fibre Co., Toronto, Ont.

Baldwin International Radio Co., Ltd., Toronto, Ont.

Carter Radio Co., Toronto, Ont.

Allen-Bradley Co., Milwaukee, Wis.

Bremer, Tully Mfg. Co., Chicago, Ill.

N. S. Brach Mfg. Co., Newark, N. J.

Benjamin Electric Mfg. Co., Toronto, Ont.

Burndept of Canada, Ltd., Toronto, Ont.

Brown Loud Speakers, England.

Automatic Electrical Equipment Co., Chicago, Ill.

Shamrock Mfg. Co., Newark, N. J.

Electrical Research Laboratories, Chicago, Ill.

Marconi Wireless and Telegraph Co., Toronto, Ont.

Pacent Radio Products, Hamilton, Ont.

Jefferson Electric Mfg. Co., Chicago, Ill.

Mueller Electric Co., Cleveland, Ohio.

U. S. L. Battery Co., Niagara Falls, Ont.

Burgess Battery Co., Niagara Falls, Ont.

Sterling Manufacturing Co., Cleveland, Ohio.

AND MANY OTHERS

All articles in this catalogue are guaranteed by the Manufacturers

A. CAREY & SONS

SERVICE AND RELIABILITY

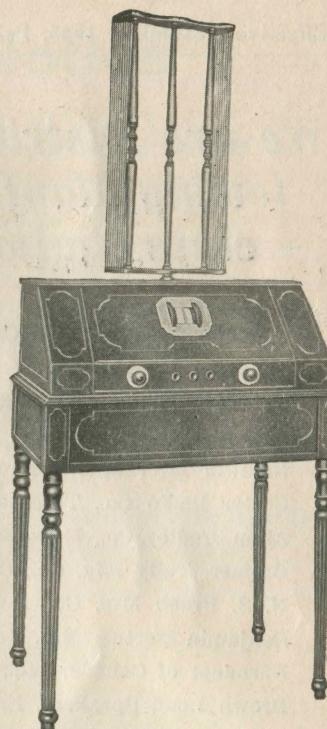
A STEP FORWARD

Painstaking research on the part of the Canadian Westinghouse Company has brought forth the improvements needed to make radio entertainment more enjoyable. There was a need for non-radiating receivers; for super selectivity; for more melodious tone reproduction; for dry battery receivers which would be more sensitive for long distance reception; for even simpler operation. There was a need for a worth while receiver at a popular price. The Radio Sets described in this booklet represent new and remarkable radio achievements; triumphs of radio research which meet every requirement of present day conditions. Thus the Canadian Westinghouse Company fulfills its purpose—bringing together great new discoveries of the foremost inventors—making possible things that seemed impossible in radio, bringing these newest achievements to every home.



Westinghouse 53

The Westinghouse 53 may be adapted to antennas of various lengths, and in addition a choice of two types of tuning circuits is afforded. One is a sensitive low loss tuning circuit for either local or long distance reception, and the other is a more selective circuit for use when local interference is present. The selective circuit is, in reality, a wave trap of rather a novel design, incorporated into the set in such a manner that



The Westinghouse 53 is a high grade regenerative broadcast receiver employing two Radiotron UX-199 Tubes and one Radiotron UX-120.

Two stages of audio frequency amplification are provided, utilizing improved transformers of a distinctly Westinghouse design, which will give greater and purer amplification.

The Radiotron UX-120 amplifying Tube which is used with this receiver, is a new type of Tube employing slightly higher plate voltage than is ordinarily used, but which gives tremendous amplification without distortion.

no additional adjustment is necessary, but at the same time making the set very selective, and may be used in cutting out local broadcasting stations. The apparatus is mounted below a horizontal panel of moulded material and enclosed in a mahogany case. A flexible cable of generous length permits concealment of Batteries on the floor or in a table drawer.

A double set of phone tip jacks have been provided with this receiver so that in cases of local broadcast reception the loud speaker may be plugged in on one stage of amplification only, or head phones may be used for long distance reception. The loud speaker may be inserted in the regular loud speaker jack for long distance and also local receptions if so desired.

This set is capable of giving greater volume than any other type of three-tube set now manufactured; using the regenerative circuit and audio frequency amplification.

Consistent loud speaker reception may be had up to 1500 miles under favorable conditions.

The Westinghouse 53 has been designed to fill a great need in rural districts for a receiver that would be at once good and inexpensive. Westinghouse Engineers have also designed this receiver in such a way that it may be made a universal one as far as Tubes are concerned. It is quite possible to use any of the standard tubes on the market, such as the WX-25, UX-201-A, or other storage battery tubes of such types. It is only necessary in this case to substitute a 6 volt storage battery in place of the dry-cell "A" battery specified.

Because of the combination of Binding Posts provided, it is possible to use this receiver on an Antenna of almost any length between 65 and 150 feet. The ideal Antenna length for this receiver is approximately 100 feet long.

Ease of operation is one of the outstanding features of this receiver. A single control does all the tuning, while another knob controls the volume or signal strength. Anyone can bring in music and concerts on these receivers as soon as they are hooked up, and scarcely any instruction is necessary.

All Radiotrons are cushioned on a special type of cradle. In addition, all the delicate parts of this receiver have been enclosed in a catacomb protector and impregnated in wax, so that the set cannot be affected by moisture, and the parts are rigidly held in place so that they cannot be affected by shock or damage in shipping.

This set is very reliable in operation since it embodies new Engineering technique in mechanical and electrical design.

Westinghouse No. 53, with three Tubes and one set Brandes Head Phones \$59.00

Westinghouse 53, with Tubes, Head Phones and one Westinghouse-Brandes Loud Speaker \$83.00

The Westinghouse 55, using 4 UX-199 Radiotrons and 1 Amplifying Tube Radiotron UX-120, is a super-sensitive, non-radiating broadcast Receiver of the Antenna type, and of selectivity, only equalled by the Super-Heterodyne.

An attractive walnut cabinet of period design houses the set itself, and the effect is very pleasing.

The circuit used represents one of the greatest and most efficient steps in radio engineering design in recent years. Two stages of tuned radio frequency are employed, together with a regenerative detector and two stages of audio frequency amplification. Tuned Radio frequency sets of the Neutrodyne type have been difficult to operate because of the multiplicity of controls.

Embodying in this Receiver is a new type of vertical drum control developed in the Westinghouse Engineering Laboratories, which provides for extreme simplicity in tuning, the three variable condensers being controlled by one drum, making a uni-control receiver.

The control drum is provided with a scale of 100 equal divisions and the variable condensers used are of the new straight line, low loss type. Stations, instead of being bunched together at the lower end of scale as is usual with most sets, are distributed evenly along it. Greater ease in tuning is obtained and less interference is experienced.

In types of tuned Radio Frequency Sets hitherto manufactured, it was often very difficult to pick up a weak signal and amplify it, because the stations were very hard to find when the operator could not hear the well known carrier whistle. We have, therefore, incorporated in the set the regenerative detector feature, so that regeneration and volume may be controlled by a vertical drum similar to the tuning device. The operator can search for the weak signals with the detector oscillating and afterwards clear up the signal by decreasing regeneration.

Another great advantage of the regenerative feature is that it greatly increases the sensitivity and selectivity of the set.

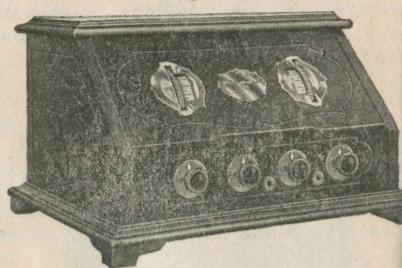
Points of Superiority.

The Westinghouse 55 is an attractive article of furniture, which when placed on a suitable stand, will not only blend pleasingly with its surroundings, but also serves as a source of entertainment of the highest nature in the home.

With the new vertical tuning control drum, devised for ease of operation, stations may be logged directly on the scale. The setting is constant and by tuning the drum to that point at any future time, the same station may be received if they are broadcasting.

The new circuit, using tuned Radio Frequency, plus regeneration makes the set super-sensitive and super-selective with greatest possible ease in tuning.

Westinghouse 55



Two Vernier Tuning controls are provided in addition, so that any interference from unusual sources may be eliminated.

The Westinghouse 55 embodies a degree of selectivity never before equalled in apparatus of other makes using the same number of tubes with their complicated controls. With antenna from 125 to 175 feet in length, the Westinghouse 55 will bring in extreme distance with unusual clarity.

A special control permits any desired volume of reproduction, which is a unique feature of this design.

The Radiotrons are mounted on a new type of suspension device, which absorbs all vibration and prevents mechanical noises being reproduced in the loud speaker.

A special telephone jack is provided so that one can listen in on the head phones if the music should happen to disturb people who might be otherwise occupied.

One filament rheostat controls all the radiotrons because in the type of design employed no minute and individual adjustments are necessary for the filaments of the tubes.

The set is a distinctive step ahead in Engineering practice and excels all others in performance.

Westinghouse 55, with four UX-199 and one UX-120 Tubes, no Phones \$150.00

Westinghouse 55, with four UX-199 and one UX-120 Tubes and one Westinghouse-Brandes Type "H" Loud Speaker, no Phones . . \$174.00

WESTINGHOUSE EIGHT SUPER-HETERODYNE

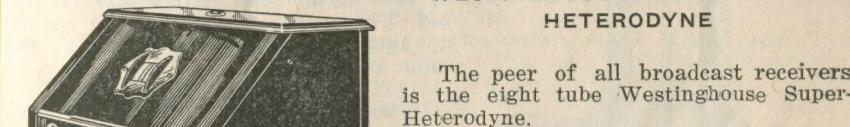


Table Type

The peer of all broadcast receivers is the eight tube Westinghouse Super-Heterodyne.

The tuning controls of the set are of the newly developed vertical drum type, which are not only novel, but are very efficient.

In designing this receiver, Westinghouse Engineers went a step ahead of the usual type of Super-Heterodyne design methods, and added coupled radio frequency application to the loop, making the set very much more selective than the Super-Heterodyne has been heretofore, and also making the set absolutely non-radiating.

The Westinghouse Super-Heterodyne is particularly designed for use in the home, where the erection of an antenna is often impracticable, and for those who wish to take advantage of the latest in radio development. Also in cities and in areas of local broadcasting stations, where the highest degree of selectivity is desirable, the Super-Heterodyne can be absolutely relied upon to give satisfaction. It can be used in Apartment Houses, and in thickly populated districts, where an ordinary antenna could not be erected, or would not be at all efficient.

But the main feature of the Super-Heterodyne is not that it can be used in places in which it is difficult to erect an aerial. It is the product of intensive research of Engineers, who were determined to produce a receiver using concealed aerial or loop, which would be superior to all other types of broadcast receivers, and which would give consistently the highest possible performance under all conditions.

We are thus able to offer the public a marvelous combination of sensitivity, selectivity and quality of reproduction and the highest type of receiver, engineering brains have produced, in the Westinghouse eight tube Super-Heterodyne.

Points of Superiority

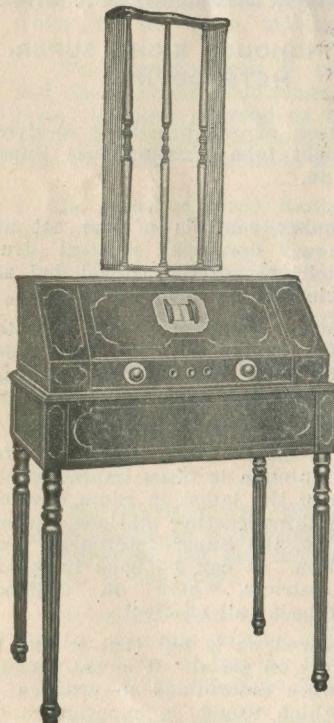
The Westinghouse Super-Heterodyne is more sensitive using the concealed loop, than other sets which use an outdoor antenna. It is remarkably selective, but the adjustments are not critical, so that the set is easy to operate.

Due to an accurately designed circuit and the new cone type loud speaker, the quality of reproduction is far superior to anything ever before heard.

The radiotrons are operated from a six volt storage battery. This is the most efficient and the most economical way to operate multi-tube receivers, and the large tubes are more efficient and more powerful.

The set is the most selective of any of the broadcast receivers on the market at the present time. It is designated to operate on the new wave channels, allotted to broadcasting stations, and will absolutely eliminate interference, except from a station which happens to be working on exactly the same wave length at the same time.

A revolving loop serves to give additional freedom from interference. In fact, it is very often possible to eliminate interference from stations which are operating on the same wave-length, by turning the loop towards the station from which it is desired to receive. This will eliminate the interfering signals.



Desk Type

Calibration of the set is constant and space is provided on the tuning drum so that station call letters may be logged. The same station may be picked up again by setting the drum in the same position.

It was always found necessary heretofore to have two separate controls on Super-Heterodynes but as an additional step in design, a friction device which operates both drums is incorporated in the set, and both may be revolved as a unit. The friction device allows one drum to be adjusted with slightly different setting, if any unusual interference should be experienced which could not be otherwise eliminated. Tuning adjustments do not vary if the set is moved to a new location in the house, or even to another city.

A special double contact switch is provided for volume control, and also a special rheostat adjustment is provided, both of which are unique features of this design.

The Westinghouse Super-Heterodyne is absolutely non-radiating and does not cause interference to neighboring receivers.

The WX-25 tubes are mounted on a special suspension device, which is effective not only in preventing mechanical shock being communicated to the loud speaker, but protecting set from damage during shipment. All the delicate parts of the receiver are impregnated in wax in a moisture proof catacomb, as an additional precaution.

Westinghouse 8 Super-Heterodyne, table type, complete with 8 WX-25 Tubes and external loop \$330.00

Westinghouse 8 Super-Heterodyne, table type, complete with 8 WX-25 Tubes, external loop and Westinghouse-Brandes type "H" Loud Speaker. Price 354.00

Westinghouse 8 Super-Heterodyne, table type, complete with 8 WX-25 Tubes, external loop and cone type Loud Speaker. Price 375.00

Westinghouse 8 Super-Heterodyne, desk-type, complete with 8 WX-25 Tubes and external loop. Price 350.00

Westinghouse 8 Super-Heterodyne, desk type, complete with 8 WX-25 Tubes, external loop and Westinghouse-Brandes type "H" Loud Speaker. Price 374.00

Westinghouse 8 Super-Heterodyne, cabinet type, complete with 8 WX-25 Tubes, external loop and cone type Loud Speaker. Price 395.00

Westinghouse 8 Super-Heterodyne, cabinet type, complete with 8 WX-25 Tubes, internal loop and self-contained Loud speaker . 490.00

RADIOLA RECEIVING SETS RADIOLA III

Exceptional performance with a price within reach of everyone

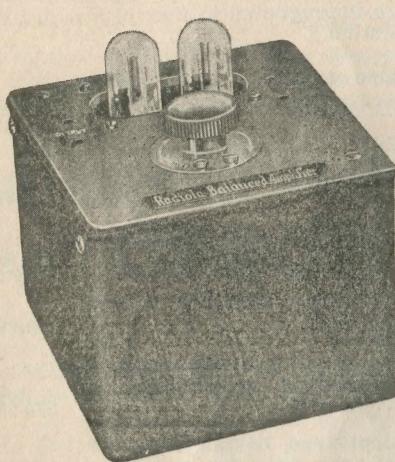
Radiola III is a high grade regenerative broadcast receiver employing two Radiotrons WD-11. One stage of audio frequency amplification is provided, utilizing improved transformers for purer amplification. Radiola III may be adapted to antennas of various lengths, and a choice of two types of tuning circuits is afforded. One is a sensitive tuning circuit, for either local or long distance reception, and the other is a more selective circuit for use when local interference is present. The apparatus is mounted below a horizontal panel of moulded material and enclosed in a mahogany case. A flexible cable of generous length permits concealment of batteries on the floor or in a table drawer.

Ease of operation is a delight to all who use these sets. A single control does all tuning, while another knob controls the "tickler" or intensity. Anyone can tune these Radiolas, without a minute's instruction.

All Radiotrons are cushioned in a special shock cradle. This eliminates vibration noises when the set is in operation, and is a protection against knocks and jars which shorten the life of the Radiotrons.

Radiola III, including two dry cell Radiotrons WD-11 and one set of head telephones, but without batteries or loud speaker . \$35.00





RADIOLA BALANCED AMPLIFIER

In order that the loud speaker performance may be had with Radiola III on distant as well as local stations, the Radiola Balanced Amplifier has been produced. Headphones permit a few people to enjoy the programs of distant stations, but an amplifier enables the use of a loud speaker, thus entertaining a roomful of people. Radiola Balanced Amplifier was designed for this purpose. It has the same finish as Radiola III and is built in the same proportions, so that, when placed beside Radiola III the match is perfect. The Amplifier uses two Radiotrons WD-11 arranged in a special balanced circuit to eliminate distortion of voice and music.

Radiola Balanced Amplifier, including two dry cell Radiotrons WD-11, but without batteries, loud speaker or headphones . . . \$32.00

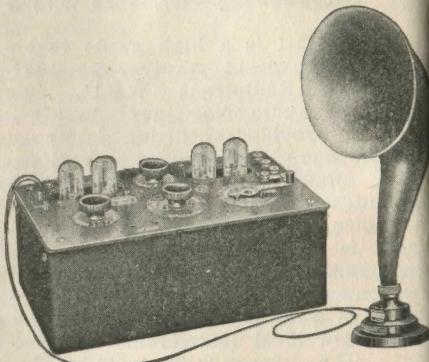
RADIOLA III-A

Radiola III-A is Radiola III and Radiola Balanced Amplifier in one case. It is somewhat more portable and compact, for those who wish to purchase the two units together. Otherwise it is, point for point, and feature for feature, identical with Radiola III and Radiola Balanced Amplifier. Like Radiola III it incorporates a selective circuit which may be switched on in an instant, to obtain reception from the more distant stations while the near ones are operating. The clear, true reproduction of this receiver is beyond comparison to its cost.

Radiola III-A, is the ideal combination for all who wish to enjoy radio entertainment and education at a minimum of expense.

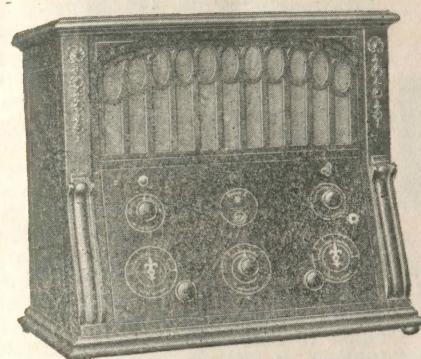
Radiola III-A, including four Radiotrons WD-11, one pair headphones, but without antenna or batteries \$66.00

Same as above, but including Westinghouse-Brandes Loud Speaker \$90.00



RADIOLA X

A rare combination of melodious reproduction, selectivity and range



Radiola X, using four Radiotrons WD-11, is a super-sensitive and highly selective broadcast receiver of the antenna type. The attractive mahogany cabinet contains everything necessary to operation—a built-in, new type of loud speaker, battery compartments—everything, in fact, except the batteries and such necessary externals as the antenna and ground.

The circuit consists of one-stage of tuned radio frequency, regenerative detector, and two stages of audio-frequency.

Radiola X is the receiver for general use where the erection of an antenna is easily possible. It is non-radiating and is designed for a degree of selectivity that will prove a revelation to the purchaser—selectivity far beyond that of the average type of antenna receiver.

The new "Regenoflex" circuit utilized in Radiola X renders the four WD-11 Radiotrons as effective in their sensitivity as the usual five tube receiver.

All Radiotrons are cushioned in a carefully designed cradle to reduce vibration to a minimum.

An amazing new loud speaker of mellow quality is built in. The set is so designed that high quality of loud speaker reproduction is maintained at all times and at almost any adjustment.

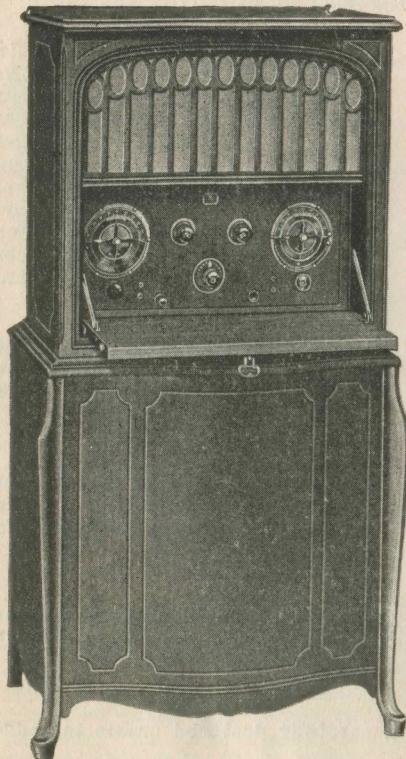
Vernier tuning controls greatly facilitate the tuning adjustments, and render close tuning well within the operating abilities of any novice.

One filament rheostat controls all Radiotrons. So positive and sure is this instrument in its operation that no individual or minute adjustments are required.

Radiola X is furnished with a lock switch, that it may be rendered inoperative to unauthorized persons, if so desired.

Radiola X—Complete with four WD-11 Radiotrons, one set of Head Phones, and built-in Loud Speaker; everything except batteries and antenna \$175.00

RADIOLA SUPER VIII



Radiola Super VIII is a six-Radiotron non-radiating broadcast receiver, employing the Super-Heterodyne—second harmonic—principle in a more sensitive and greatly simplified design. The beautiful cabinet contains the operating mechanism, a newly developed loud speaker, a concealed loop which may be rotated by a panel control knob and space for all the necessary batteries. It has two tuning controls, vernier operated, a loop control, a battery and a volume control. New inventions make the six Radiotrons employed deliver results equal to sets having eight or nine tubes.

All Radiotrons are operated by dry cells. This means that the inconveniences of storage battery maintenance are eliminated.

Radiola Super VIII cannot radiate. It can be operated close to a neighbor's receiver, without causing the slightest disturbance.

The "Volume Control" is simple and positive in its action. This is a very unique feature in that permits regulation of volume without de-tuning.

The loud speaker is one of the latest design. It represents the efforts of acoustical engineers to produce a device for re-creating voice and music with every detail of the original. Perfection was their ideal and aim.

This Radiola is entirely self-contained. Batteries, loud speaker, loop—everything is concealed within the attractive cabinet.

A novel and very effective method of cushioning the Radiotrons and apparatus not only prevents vibrating noises when the receiver is in operation, but protects the set from damage or shock during transportation, or in moving about the room to dust or clean.

Radio'a Super VIII—Complete with six UV-199 Radiotrons, enclosed Loud Speaker, no Head Phones \$450.00

RADIOLA SUPER-HETERODYNE
Second Harmonic

Radiola Super-Heterodyne has all the electrical features of, and is technically the same as, Radiola Super VIII, except that the loud speaker is external, and the concealed loop is smaller, and fixed in position. There is provision, however, for the use of an external loop of larger area.

Super sensitiveness—super selectivity—faithful reproduction—portability and reliability are the outstanding features of Radio Super-Heterodyne.

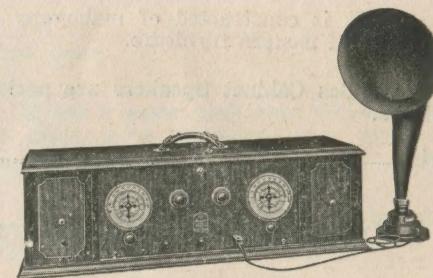
Like Radiola Super VIII, this Radiola is especially useful in thickly populated districts, but possibilities for vacation travelling and general use are almost unlimited.

Imagine the utility of Radiola Super-Heterodyne during the vacation season! Dancing on the front porch in the evening. Entertainment snugly indoors for rainy days. Music for the picnic—for the motor boat outing—for the automobile tour. Just take it where it is wanted.

Radiola Super-Heterodyne, complete with 6 Westinghouse UV-199 Radiotron Tubes, only \$190.00

Radiola Super-Heterodyne, complete with 6 Westinghouse UV-199 Radiotron Tubes and Westinghouse-Brandes type "H" Loud Speaker, but not including Phones or External Loop \$214.00

Radiola Super-Heterodyne, complete with 6 Westinghouse UV-199 Radiotron Tubes, one Westinghouse-Brandes type "H" Loud Speaker and one Westinghouse External Loop, but not including Phones \$230.00



BRANDES CABINET SPEAKER



a large diaphragm, and thumb screw adjustment readily accessible on the outside of the cabinet.

The new Cabinet Speaker is especially designed for well appointed homes. It has quality of tone, built into a beautifully simple cabinet, finely finished. It is of the correct size to fit on top of the average receiving set.

1. The unit used in the cabinet speaker is of the same construction as that of the unit on the large horn speaker (Type H). It has laminated pole pieces, a separate alternating magnetic flux path,

2. The horn is of special molded construction, providing 27½ inches of air column, which construction and length produce mellow rounded tones and unusual volume.

3. The cabinet speaker is 17 7/16 inches wide, 9 7/8 inches deep, and 9 5/16 inches high.

4. It is constructed of mahogany and finished to harmonize with all types of modern furniture.

Brandes Cabinet Speakers are packed in individual corrugated containers.

Price \$40.00

WESTINGHOUSE-BRANDES TYPE "H" LOUD SPEAKER

1. The new Type H speaker is unusual in quality and beauty, and we believe it will be accepted as the standard of comparison.

2. It has laminated pole pieces which inherently increase the efficiency of the electro magnets, and thus afford great volume from a minimum of current input.

3. The volume of the speaker is also increased by the provision of a separate path for the alternating magnetic flux (supplied by the alternating current) which eliminates the customary practice of having the alternating magnetic flux pass through the large permanent magnets.

4. This special alternating magnetic flux path also improves the quality of reproduction and minimizes the possibility of demagnetizing the permanent magnets.

5. The large diaphragm used in the new Type H Speaker adds to the low range of the Speaker and improves reproduction over the full frequency range from 200 to 4000 cycles per second.

6. The Speaker is made adjustable by means of a thumbscrew at the back of the base which raises or lowers the magnets in their relation to the diaphragm, providing maximum volume for nearby and distant reception.

7. The Speaker is 26 1/4 in. high with 12 1/4 in. diameter of bell.

8. The base is an art design casting. The shape of the base and the finish of the speaker were especially chosen to meet the demand for better looking horn type speakers.

The Brandes Speakers (Type H) are packed in individual corrugated containers.

Price \$25.00

Standard package—I speaker.



NEW ADJUSTABLE TABLE TALKER

This is an improved Table Talker at the old low price.

1. It has a goose neck horn which produces clear, more rounded and mellow tones.

2. The Table Talker is only 18 inches high, and has a 10 inch diameter of bell.

3. It is finished in a pleasing shade of brown with a felt padded base, and is sold under the Brandes money back guarantee.

4. The adjustment lever which controls the volume and sensitivity of the speaker is located at the rear of the base.

5. No extra batteries are required for operation.

Brandes adjustable Table Talkers are packed in individual corrugated containers.

Price \$13.00

BRANDES SPEAKER UNIT

The Brandes speaker unit is to be offered for sale to set manufacturers who desire to equip their radio sets with self-contained speakers. It is the same unit that is used with the cabinet speaker.

1. It has laminated pole pieces which inherently increase the efficiency of the electro magnets, and thus afford great volume from a minimum of current input.

2. The volume of the speaker unit is also increased by the provision of a separate path for the alternating magnetic flux (supplied by the alternating current) which eliminates the customary practice of having the alternating magnetic flux pass through the large permanent magnets.

3. The large diaphragm used in the new speaker unit adds to the low range of the unit and improves reproduction over the full frequency range from 100 to 4000.

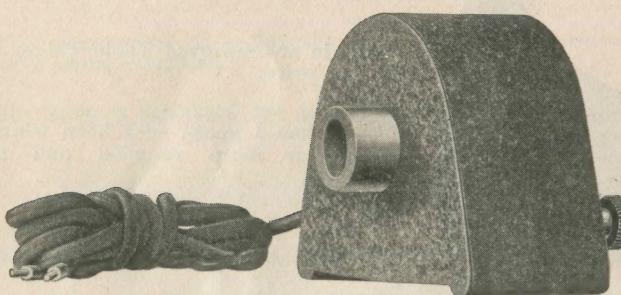
4. The adjustment lever can be arranged to operate from the outside or the inside of the radio set, depending upon its design.

5. Speaker units can be provided with or without polarity indicating cord.

Brandes Speaker units are packed in individual corrugated containers.

Price \$10.00

PHONOGRAPH ATTACHMENT



Ever since the inception of radio the public have been in need of a phonograph attachment which would not be materially affected by moderate variation in the sizes of good phonograph horns, or the weight of their air columns.

For those who prefer to use the horn of their phonograph, the unit of the cabinet speaker has been made available suitably encased for this application.

1. This unit has laminated pole pieces, a separate alternating magnetic flux path, a large diaphragm, and a thumbscrew volume adjustment.

2. It is easily attached to the reproducer arm of the phonograph.

Brandes phonograph attachments are packed in individual corrugated containers.

Price \$13.00

NAVY MATCHED TONE HEADSETS



around the cord prevents radio-frequency currents from entering the cord and thereby eliminates cord capacity howls and similar detuning effects, allowing clear, pure and undisturbed reception.

2. The inside terminals of the Navy Type Headset make it very neat in appearance.

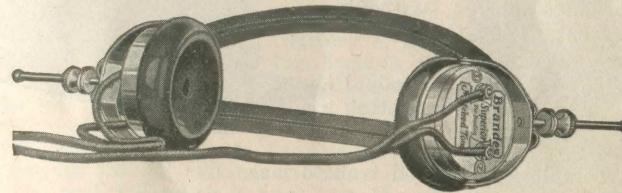
3. The tone of the two receivers is perfectly "matched," so that the user hears the same sound in both ears at the same instant.

4. The clutch on the headband allows comfortable adjustment to the head.

Brandes Navy Type Matched Tone Headsets are packed in individual corrugated containers.

Price \$8.00

SUPERIOR MATCHED TONE HEADSETS



Brandes Superior Headsets are matched in tone, which means that the two receivers produce exactly the same sound at the same instant.

1. They are light in weight and extremely comfortable, having hard rubber caps to give accurate sitting of the diaphragm, improved acoustical qualities, and add to the comfort of the wearer.

2. The cords are especially designed with twisted copper tinsel instead of copper braid, reducing losses, eliminating cord noises and improving reproduction.

3. These headsets have a correct alternating current impedance of 4,000 ohms at 800 cycles.

4. The clutch on the headband allows comfortable adjustment to the head.

5. The featherweight headband is of steel wire, covered with seamless fabric.

Brandes Matched Tone Superior Headsets are packed in individual corrugated containers.

Price \$6.25

AUDIO TRANSFORMER

Since 1908 Brandes has specialized in acoustical research, and the improvement of the audio circuit of the radio receiving set, which, in the final analysis, determines the quality of the reception. This research has resulted in:

1. The development of a new audio transformer which amplifies without distortion over a normal frequency range of 200 to 4000 cycles per second with the high voltage amplification ratio of 1 to 5.

2. A transformer so designed that two stages of audio amplification may be employed without in any way sacrificing quality.

3. Outside soldering terminal connections and a screw mounting base.

4. A completely shielded transformer.

Brandes audio transformers are packed in individual corrugated containers.

Price



DUBILIER FIXED CONDENSERS
Manufactured by Canadian Brandes, Ltd.

Type 640 and 640 G

The Micadon Type 640 is a particularly efficient Mica Condenser. Because of its special design, it is possible to make it in the wide range of capacities from .005 microfarads to .02 microfarads. Capacities from .0075 mfd. to .02 mfd. are especially useful in per heterodyne, neutrodyne, flex and resistance coupled audio frequency amplifier circuits.

The size of this condenser is 2 1/4" long by 1 1/4" wide. Convenient soldering lugs make it extremely adaptable to the various requirements of radio circuits.

Type 640 G is equipped with grid leak clips and may be used as a grid condenser or in any other position in a circuit where a condenser shunted with a resistance unit is necessary.

The Type 640 G is made in the standard capacity of .00025 mfd.

Type 640 G can be made in other standard capacities upon receipt of specifications.



Capacities of Type 640

025	\$.45	.004	\$.55
05	.45	.005	.70
1	.50	.006	.85
2	.50	.0075	.90
25	.50	.01	.90
3	.55	.02	1.40

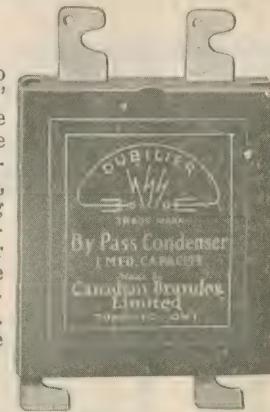
Dubilier Micadons, manufactured by Canadian Brandes, Limited are packed 10 to the container.

Dubilier Micadon Condenser Type 640 (Grid Leak Type) .00025 microfarads. Price 55c

DUBILIER BY-PASS CONDENSERS

Manufactured by Canadian Brandes, Limited

This is a large capacity condenser used to by-pass the radio frequency currents across "A" and "B" batteries in radio receiving sets. The voltage delivered by a new "B" battery is quite uniform, but after this battery has been in service for a time, the voltage, due to deterioration, becomes more or less unstable and produces disturbing noises in the phones or loud speaker. The Dubilier By-Pass Conductor acts as a control for this fluctuating current, taking a charge as the voltage rises and delivering it back into the circuit as the voltage falls below its normal value. This assures a uniform flow of current and the elimination of noises.



For best results a condenser of at least one microfarad should be used.

Capacities

	\$.90	2.0	\$ 2.50
	.95	3.0	3.75
	1.20	4.0	5.00
	1.50		

Dubilier By-Pass Condensers, manufactured by Canadian Brandes, Limited, are packed 1 to the container.

DURHAM METALLIZED GRID LEAK

The Durham Metallized Grid Leak manufactured by Canadian Brandes, Limited, was developed by two noted scientists of the University of Pennsylvania and is a most satisfactory grid leak for the following reasons:

1. Due to its physical construction it is practically noiseless, more reliable and uniform.
2. Small limits of variations over a wide range of impressed electrostatic forces (voltages).
3. Its resistance change is very little with varying currents flowing through it.
4. Temperature changes do not affect its resistance appreciably.

5. It is of convenient size, fits a standard grid leak mounting, neat in appearance.

6. The resistances always check within small limits to the print marking on tube.

Durham Metallized Grid Leaks, manufactured by Canadian Brand Limited, are packed 1 to the container.

Prices

.25 megohms	\$.50	3.0 megohms	\$.50
.5 megohms	.50	4.0 megohms	.50
1.0 megohms	.50	5.0 megohms	.50
2.0 megohms	.50		

WESTINGHOUSE PORTABLE LOOP



The Westinghouse Portable Loop was specifically designed for use with the Radiola Super-Heterodyne Receiver. It is also adapted for use with Amateur Receivers of the Super-Heterodyne type of home-made sets, using tuned and untuned radio frequency amplification, and is also well adapted for the standard reflex circuit, using the loop as a pick-up device as shown in the leading Radio magazines.

This Loop represents a marked improvement over Loop designs which have heretofore been considered as standard. The familiar square form has been discarded, and we have a long, narrow rectangular angle. Not only does this type occupy less room and is more easily handled, but it is more efficient. The horizontal wires of the square loop serve merely to complete the circuit, while the vertical section picks up the greatest part of the energy of the broadcast wave. This horizontal part is a useless resistance in the circuit which tends to lower the efficiency. However, there is a critical distance for the spacing of the vertical wires of the loops so that there will be a voltage generated in it.

We have designed a loop which meets this condition and which proves to be more efficient, giving greater signal strength than previous designs, and is much more handsome in appearance, as the loop may be rotated through an angle of 180° , and stops are provided to prevent it from going beyond these limits. Handy binding posts are provided so that connections may be made to any type of receiver.

A stand or base is provided so that the loop may be placed on a table or on top of the receiver, and the frame is of mahogany, well finished and of a most attractive appearance.

Using any of the standard .0005 MFD Variable Condensers, this is capable of covering the entire broadcast band of wavelengths.

Price \$1

WESTINGHOUSE RUBBER CASE "A" BATTERY

Where the amount of filament current required is greater than should be taken from dry cells, the Westinghouse 6-BRO-11 will prove very satisfactory.

This battery has three compartments, one of which is a hard rubber container, which are not subject to leakage that may occur in batteries having rubber jars in wooden cases.

The important features of this type of battery are heavy plates, full eighth inch thick, and thick cedar separators. There is

plenty of space for a large volume of acid, and this gives a large ampere hour capacity for the size of the battery.

The 6-BRO-11 is a 6-volt, 11-plate battery with a capacity of 100 ampere hours.

Price \$25.00



For smaller battery we would recommend the 6-BRO-7, which is a 6-volt, 7-plate battery with a capacity of 60 ampere hours.

Price \$20.00

CRYSTAL CASE "B" BATTERY

Type 24-RG-2 is the latest addition to the line of Crystal Case "B" Batteries.



The enormous increase in the number of sets using 5 tubes created a demand for a battery of larger capacity than the 22-MG-2 and the 24-RG-2 was designed to meet this demand. It is a 12 compartment glass case battery of 24 volts. The capacity is 3500 milliamperes hours (3.5 ampere hours) when discharged at a rate of 40 milliamperes.

Most of the popular 5 tube sets use 5 of the 201-A tubes; 90 volts are generally used on the plates and at a zero grid potential this will mean that each amplifier tube will draw about 6 milliamperes plate current. If used for three hours a night the set will thus take 75 milliamperes hours per night. The number of nights service at this rate will be 4600 milliamperes hours divided by 75 or 46 nights. These batteries do not employ the compound seal but are sealed with a tightly fitting soft rubber cover. The glass partitions are brought up above the covers and lead vent plugs are used.

This battery should give a maximum of life and service far in excess of that heretofore obtainable by reason of the fact that it has a very heavy plate which contains a large amount of active material; a special design of grid not only serves to conduct the currents generated in the plates with practically no losses but the mechanical design of the grid is

such as to firmly hold together the active material, thus eliminating deposit of active material to any extent. The life of a battery is practically determined by the length of time that the active material can be kept together and in intimate contact with the grid.

The 24-RG-2 battery is a fitting addition to any of the popular 5 tube sets now on the market by reason of its appearance, capacity and long life. It is being used with such sets as the Neutrodyne and other popular receivers. It is also popular in sets using push-pull amplifiers. It will be found to be entirely suitable for use in such sets as the super heterodyne which use either 6 or 8 or the UV-199 tubes.

Price \$11.00

RECTIGONS

For Charging "A" and "B" Batteries

Construction

All parts with the exception of the leads, terminal board, and handle are enclosed within a sturdy three piece pressed steel case. An unusually heavy back plate is used to support the transformer, thus insuring quiet operation. The removable cover is attached to the case with the same thumb screws that hold the handle. If a portable outfit is not desired the handle can be discarded, using the thumb screws to secure the cover only.



Both the a-c and d-c leads are of rubber insulated cable. The lead, a double conductor cord, is provided with a standard separable attachment plug. Battery clips are attached to the d-c leads, which have distinctive coloring for polarity indication.

A moulded terminal board with four studs of the "Snap On" "Snap Off" type is mounted on the back plate directly below the cover. The change for adapting the outfit for charging "A", "B" or automobile batteries is made in a second.

The transformer is of the insulated type, i.e., the secondary winding is entirely insulated from the a-c. line. Both coils are assembled with punchings, the punchings are securely wedged and the entire assembly is then impregnated in insulating compound, which results in a solid compact unit practically unaffected by moisture or acid fumes.

The bulb socket is of the double type, providing a receptacle for the fuse or lamp in the "B" battery circuit. This design is, therefore, entirely self-contained, which is of great practical advantage when the Rectigon is used as a portable device, as there is no possibility of breaking the lamp. Even for permanent installation this feature is a real advantage, since in addition to guarding against lamp breakage it occupies less space.

Finish

Only the best grade of Rectigon Maroon Enamel is used for the case parts. This enamel is practically immune from the effects of acid fumes. parts of the case are finished separately before assembly, so that there are no spaces of exposed steel to corrode.

Operation

Complete instructions for the operation of the Rectigon are included in the instruction card furnished with each outfit. But due to the fact that insulated transformer is used instead of the auto-transformers supplied with previous outfits it is unnecessary to disconnect the radio tubes from the receiving set during the charging period. There is absolutely no chance of getting a short circuit to ground through the receiving set, with the resulting tube destruction.

Charging Range

This Rectigon will charge 1 or 2 cells of Radio "A" battery at approximately 1 1/2 d-c. amperes, or from 3 to 6 cells of Radio "A" or automobile battery at the approximate d-c. current rates of 2 amperes to 3 cells and 1 1/2 amperes to 6 cells. Intermediate current rates to intermediate number of cells. Batteries having a greater number of cells may be charged in sections. Also the provision for charging one or two cells will enable the user to fully charge one or more low cells without overcharging the others.

When connected for "B" battery charging the outfit will deliver from 1/4 ampere to a range of 11 to 48 cells of lead storage "B" battery (one to four 11 or 13 cell batteries). Different sizes of lamps are used to vary the charging current. A table giving the size of lamp, number of cells and charging number of alkaline cells can also be charged at the same range of d-c. current.

Economical

The cost of charging batteries with the Rectigon is very low compared with the charge made by most public battery-charging stations. In addition the convenience which the Rectigon offers the private owner is well worth considering.

List Price and Ratings

Style number and list price include outfit complete with bulb

Style No.	D-c. Amperes.	D-c. Volts	No. Cells.	A-c. Volts.	Cycles
24501	2 amp. max.	2 to 96	1-48	115	60
Rectigon	Bulb	Renewal Bulb			
Style No.	Style No.	Amp. capacity			
24501	277681	2			
		Approx. Weight			
		Net 12 lbs. boxed 14 lbs.			
		Net 2 ounces			
			List Price		
			\$24.30		
			6.50		

A 25 cycle Rectigon is now being developed and will be available later in the season.

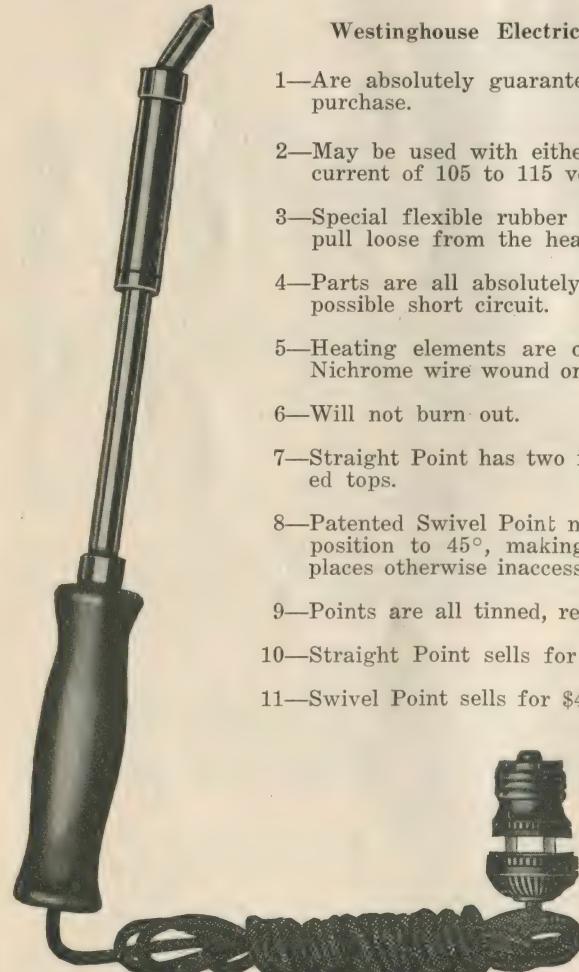
WESTINGHOUSE SOLDERING IRONS

Are Just the Thing for the Radio Fan

YOU BE THE JUDGE

In designing and building Westinghouse Straight and Swivel Point Electric Soldering Irons we have taken into consideration every fact practical men have found in the irons they have been forced to use up to this time.

Check the points below with the things YOU know should be embodied in a good Electric Soldering Iron and YOU be the judge as to whether the Westinghouse isn't the very Soldering Iron YOU have been looking for.



Westinghouse Electric Soldering Irons

- 1—Are absolutely guaranteed for one year after purchase.
- 2—May be used with either direct or alternating current of 105 to 115 volts.
- 3—Special flexible rubber covered cords will not pull loose from the heating elements.
- 4—Parts are all absolutely insulated against any possible short circuit.
- 5—Heating elements are of the highest grade Nichrome wire wound on high resistance lave.
- 6—Will not burn out.
- 7—Straight Point has two interchangeable threaded tops.
- 8—Patented Swivel Point may be adjusted to any position to 45°, making it possible to solder places otherwise inaccessible.
- 9—Points are all tinned, ready for use.
- 10—Straight Point sells for \$4.00.
- 11—Swivel Point sells for \$4.50.

RADIOTRONS



UV-199



UX-199 Rating



WX-199

Filament Volts	3.0
Filament Amperes .....	.06
Plate Volts (Maximum)	90
Price	\$3.50

The Little Tube of Big Performance

The filament of Radiotron UV-199 is designed for operation from three No. 6 dry cells in series. This filament provides a high emission at low filament temperatures, a quietness of operation and long life together with ruggedness and uniformity of operation.

It is not only an exceptional detector and audio frequency amplifier, but is an excellent radio frequency amplifier as well.

As in other tubes, the proper grid bias depends, in amount, on the plate voltage employed. Used as an amplifier plate voltage up to 80 may be employed if the correct grid bias, as shown in the instruction sheet which accompanies each tube, is provided.

The rheostat should have a maximum resistance of 30 ohms for operation from three dry cells in series.

Due to their uniformity, it will be found that no difficulty will be experienced in matching up these tubes when used in Multi-tube sets. These tubes very rarely fail due to burn out unless a very high voltage has been accidentally applied. If this excessive voltage has not burned out the tube, it may be damaged temporarily. Its normal action may be restored by lighting the filament at rated voltage for twenty minutes or longer with the plate battery discontinued.

This radiotron has the regular 199 base and will only fit the standard UV-199 Socket.

UX-199

This raditron is identical to the UV-199, except that it is fitted with the new standard UX radio tube base and cannot be used in the old UV-199 socket.

WX-199

This radiotron is identical with the UV-199, except that it is equipped with the new large standard base for use in either the present Navy Socket or the new Standard Socket.

RADIOTRONS



WD-11



WX-12



WD-12

Rating

Filament Volts	1.1
Filament Amperes	0.25
Plate Volts	20 to 80
Price	\$3.50

The Economical Dry Cell Tubes

Radiotron WD-11, WD-12 and WX-12 are most useful and efficient vacuum tubes, designed for operation entirely on dry cells. The filament, which should glow not brighter than a dull red, consumes just about a quarter ampere (.25 ampere). This extremely low consumption makes possible filament operation on a single dry cell—a most important consideration where portability is desired, and where storage battery charging facilities are not available.

A single 22 1/2 volt "B" battery unit will prove very satisfactory in the plate circuit, though potentials up to 80 volts may be employed.

If desirable, these tubes may be run from a two volt storage battery but a four ohm fixed resistance should be placed in the filament supply leads in order to keep the temperature of the filament at a point which will insure long life.

Perhaps the strongest recommendation which can be made for Radiotrons WD-11, WD-12 and WX-12 is their absolute freedom from tube noises. They are also very stable in operation.

WD-11, WD-12 and WX-12 are identical, except that WD-12 is designed to fit the present Navy Socket, whereas the WX-12 can be used in either the present Navy Socket or the new Standard Socket.

RADIOTRON

Rating

Filament Volts	3.0
Filament Amperes .....	.125
Plate Volts	135
Negative Grid Volts	22.5
Price	\$3.50

UX-120 Power Amplifier

Radiotron UX-120 is a dry battery power amplifier tube for supplying a large volume of undistorted output to a loud speaker. It is suitable for use only in the last stage of an audio amplifier.

The plate potential should be 135 volts, supplied by three blocks of 45 volt batteries or six blocks of 22.5 volt batteries. A lower plate voltage will reduce the volume of output. When this radiotron is used in the last stage of audio frequency amplification of a multi-tube set, the use of the larger size "B" batteries is recommended.

The negative grid or "C" battery voltage should never be allowed to fall much below 22.5 volts, as a lower voltage will cause excessive plate current and may possibly shorten the life of this radio tube. The grid voltage can be supplied conveniently from a standard 22.5 volt dry battery.

The filament rheostat for one UX-120 Radiotron should have at least 5 ohms resistance and should be placed in the negative lead of the "A" battery. The grid return lead is connected to the negative terminal of the 22.5 volt "C" battery, and the positive terminal of the "C" battery is connected to the negative filament lead between the rheostat and the radiotron.

This radiotron has the new small Standard UX radio tube base and can only be used in sockets adapted for this base.

RADIOTRONS

Rating

Filament Volts	5.0
Filament Amperes	0.25
Plate Volts	20 to 135
Price	\$3.50

A New and Better Radiotron

The WD-25 Radiotron is a new and improved high vacuum tube suitable for detection, audio frequency and power amplification. It is provided with a special form of oxide coated platinum filament whose characteristics are long life, quiet operation, low power consumption and low operating temperature.



WD-25



UX-120



WX-25

The WD-25 consumes less than 1/4 ampere (0.25 amp.) While it was designed for operation with 5 volts filament potential it is often possible to operate it at a much lower voltage with a consequent saving in current consumption and increase in

life. To use this tube to the best advantage it is desirable to use a filament rheostat of 20 to 30 ohms resistance. This is particularly desirable when using the tube as a detector.

The electron emission from the WD-25 filament averages many times that of the ordinary amplifying tube. This results in greatly improved loud speaker operation.

We particularly recommend this tube as a detector and audio frequency and power amplifier. Its use in any of these capacities will be a revelation to those accustomed to the average vacuum tube now on the market.

One of the outstanding features of this tube is the high vacuum which together with the special filament used, insures uniform operating characteristics and exceptionally quiet operation, very important features in any radio tube.

The WD-25 can be used in any equipment employing the ordinary tube and will give improved results. When using any vacuum tube the best practice is to mount it on a cushion or spring support, preferably mount it vertically.

The WD-25 and WX-25 are identical, except that the W.D-25 is designed to fit the present Navy Socket, whereas the WX-25 can be used in either the present Navy Socket or the new Standard Socket.

RADIOTRONS

UV-201-A—Rating

Filament Volts	5.0
Filament Amperes	.25
Plate Volts (maximum)	135
Price	\$3.50

Radiotron U-V-201-A is a new and improved high vacuum tube suitable for detection, radio frequency amplification and audio frequency amplification. It contains a new tungsten filament, the characteristics of which are long life, low power consumption and low operating temperature.

The electron emission from the filament of the UV-201-A averages about five times that of the ordinary old style amplifying tube. The result is greatly improved loud speaker operation. In operation one of the outstanding features of the UV-201-A is the unusually high vacuum which insures uniform characteristics and quiet operation, a feature to be greatly desired by all tube users. UV-201-A can be used in any equipment that employs the ordinary tube and will give improved results.

In operation, if the filament voltage is supplied by a 6.0 volt battery the resistance of the filament rheostat should be at least four ohms. If by accident the excessive filament or plate voltage should be applied to the tube, the tube may lose its activity. This may be restored ordinarily

however, by lighting the filament at rated voltage for ten to twenty minutes with plate voltage off. Failure of the filament is seldom due to actual burnout, unless very high voltage is applied. The end of useful life is indicated by a decrease in electron emission. This in turn is indicated by an increase in the filament voltage required for satisfactory operation.

To prevent noise from vibration the tubes should be mounted on cushion or spring supports. The best method is to mount them vertically.

RADIOTRON

UX-201-A

This tube is identical to the UV-201-A except that it is equipped with the new large Standard UX radio tube base and can be used in either the present Navy Socket or in the new Standard Socket.

Price \$3.50



R. V. C. RADIOTRON TUBES

Type UV-199. Price	\$3.50
Type UX-199. Price	3.50
Type UV-201-A. Price	3.50
Type UX-201-A. Price	3.50
Type UV-200. Price	3.50
Type UX-210. Price	3.50



STAR PHILIPS TUBE

Type UV-199. Price	\$3.50
Type UV-201-A. Price	3.50

All the above tubes are guaranteed against any defect in manufacture and act as detector and amplifier, both Audio and Radio.



UX-201-A

WESTINGHOUSE RADIOLAS INSTALLED IN
S. M. S. CABINETS



S. M. S. RADIO CABINET NO 412.

Made in combination Walnut combining the charm of Spanish design with the best modern radio equipment. Contains "Westinghouse" Radiola X receiver, including Loud Speaker built-in, 4 WD 11 Tubes, 1 pair of Phones. Price \$290.00

S. M. S. CABINETS

S. M. S. Radio Cabinets are the only cabinets equipped with Westinghouse Receiving Apparatus.

S. M. S. RADIO CABINET
No. 415

Made in combination Mahogany and equipped with "Westinghouse" Radiola III-A receiver.

Built-in Loud Speaker, including 4 WD 11 tubes, 1 pair Phones.

Price \$128.00

No. 418—Stand for above Cabinet Price \$15.00

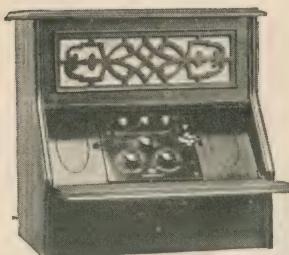
S. M. S. RADIO CABINET
No. 417

Made in Gumwood finished Walnut with "Westinghouse" Radiola III-A receiver, Loud Speaker built-in, including 4 WD 11 Tubes, 1 pair Phones.

Price \$112.00

Table for above \$15.00





S. M. S. MODEL 436

The ever popular Queen Anne Period design is worthily represented in this attractive model, the performance of which is in keeping with its matchless appearance. Constructed of Genuine American Black Walnut. Two-toned satin finish.

Contains Westinghouse 55, 5-tube Receiving Apparatus and 5 tube Baldwin Concert Brand Loud Speaker Unit built-in.

Price \$310.00



S. M. S. MODEL 434

A refined console type presenting a modern adaptation of Louis XV period style. Made in combination American Black Walnut or Mahogany, satin finish. With Westinghouse 55, 5-tube Receiver built in, and 5 tube

Price \$260.00

Baldwin Concert Grand Loud Speaker built in.

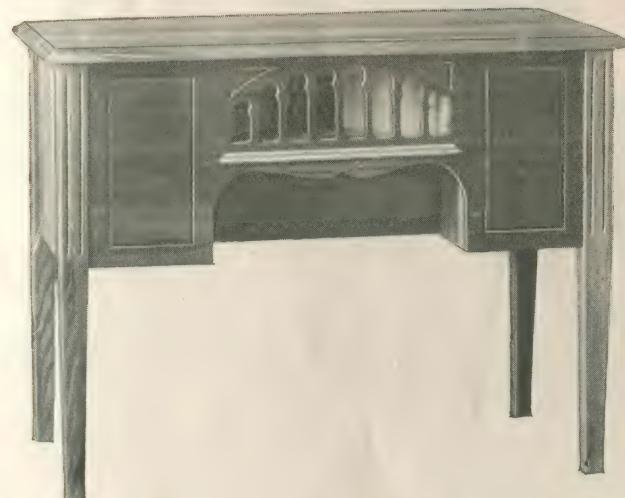
S. M. S. MODEL 415-A
Equipped with Westinghouse 53 Receiver, including tubes.
Price \$125.00
Cabinet without Set, but with Horn Price \$65.00
Cabinet without Loud Speaker or horn
Price \$36.00

**S. M. S. CABINET STYLE**

S. M. S. Cabinet Style 442, including Westinghouse Style 55 Set

This cabinet is of the two tone Walnut, beautifully finished. Battery compartments in this set will accommodate the largest B batteries, cells or storage battery. Description of set in Westinghouse portion of catalogue.

Price, including five tubes \$168.00



S. M. S. MODEL 433

An S. M. S. Baldwin Console speaker, made in Gumwood, finished in Mahogany and Walnut, Table top is 18 x 38 inches. Back is entirely open, space inside for sufficient batteries to operate any make of set. A grade compressed wood horn with Baldwin Concert Type unit is in.

Supplied only with Baldwin Concert Grand Unit.
Price \$50.00

Unless otherwise specified table will be finished Walnut. Table only, without Speaker Price \$26.00



S. M. S. MODEL 435

This remarkably beautiful model constitutes one of the finest outfits ever produced in Canada.

While not high priced, the best of workmanship is embodied, and restrained elegance of the design fits this cabinet for a place in any

Every convenience is provided for operating, including a sliding which serves as an arm rest when manipulating the dials. With "inghouse" 55, 5-tube Receiver and the Improved Baldwin Concert Reproducer built in, and 5 tubes, the owner of this model possesses handsome piece of furniture which is at the same time, the ultimate Radio.

Price

ELKAY TUNERS, SETS, KITS

The Elkay Super-Selector has been pronounced one of the greatest developments in modern radio engineering in the past two years. Like everything else worth while, this was no accidental discovery, but is the result of painstaking study and experimenting on the part of two technically trained engineers, Mr. Joseph Kaufman, formerly instructor at the Massachusetts Institute of Technology, and William Arthur, Consulting Engineer and Member of the American Institute of Electrical Engineers. These two men, assisted by others, concentrated their efforts on developing radio apparatus and circuits that should possess the following inherent qualities:

Pure natural tones—volume controllable at will—ability to get distant stations—selectivity—simplicity of operation—adaptability to any type of tube or battery—beauty of appearance—moderate price.

All of these results have been obtained in generous measure and are incorporated in the apparatus now being marketed under the name of Elkay Super-Selector Sets and Kits.

The basic apparatus, which of course, in its full perfection represents a large outlay of effort and money is the subject of several patent applications.

ELKAY SUPER-SELECTORS ARE MADE IN TWO MODELS



Type 5-S

Type 5-S, shown above, consists of one stage specially tuned radio frequency, one detector, one stage of transformer coupled amplification. It includes all the features of the Elkay 4-S type, and in addition, the following:

- (1) A Vernier condenser.
- (2) Resistance coupled amplification for the last two stages.
- (3) Arranged for five tubes.

Price \$110.00

Type 4-S

Type 4-S consists of one stage of specially tuned radio frequency, one detector, and two stages of transformer coupled amplification. Arranged for four tubes.

Price \$95.00

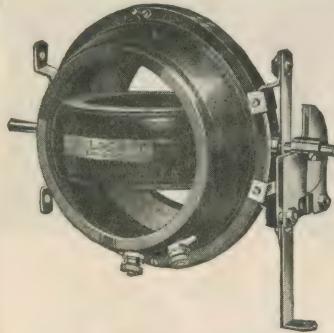
Some of the reasons why the Elkay Super-Selector is a year or more ahead of its nearest competitor, are given herewith:

- (1) It operates on either dry cells or storage batteries.
- (2) It uses either UV 201-A or UV 199 type tubes, or any other tubes without change to construction details or wiring. Any kind of arrangement of tubes can be employed. To change the set from one type of tube to any other requires less than 30 seconds.
- (3) It has a patented selectivity control. You can make the set selective as you wish.
- (4) Its patented Clarifier not only filters out most of those extraneous noises, but clears up muffled signals to full brilliancy. A remarkable new development.
- (5) It uses much less B Battery current than other standard sets.
- (6) Its volume is full, equal if not greater than any set; controllable at will.
- (7) A bonafide distance getter.
- (8) Sonal fidelity is its strongest characteristic.
- (9) There is absolute control over oscillation. Low wave length stations can be brought in just as easily as the high.
- (10) The logging of the stations is fixed and exact.

All of the above features are the direct result of Elkay standards and workmanship. Only the highest grade materials are used throughout. This combined with the new patented apparatus and highly efficient engineering design, give a result which makes it possible to hear all the beauty of the artists' original rendering.

THE BASIC APPARATUS USED IN THE MANUFACTURE OF ELKAY SETS CAN BE PURCHASED SEPARATELY BY AMATEURS AND OTHER SET BUILDERS AS FOLLOWS:

THE ELKAY VARIABLE CLARIFYING SELECTOR, TYPE C

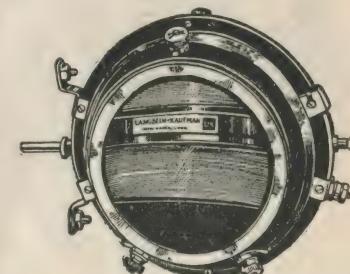


Patent Applied for

be used with advantage in the Erla reflex and straight radio frequency circuits; in fact, whenever an antenna tuner is desired. The secondary is tuned with a .0005 mfd. variable condenser. This instrument eliminates the use of taps.

Price, Type C, (includes compensator) \$115.00
Price, Type X (without compensator) \$95.00

THE ELKAY VARIO TRANSFORMER, TYPE VT-25

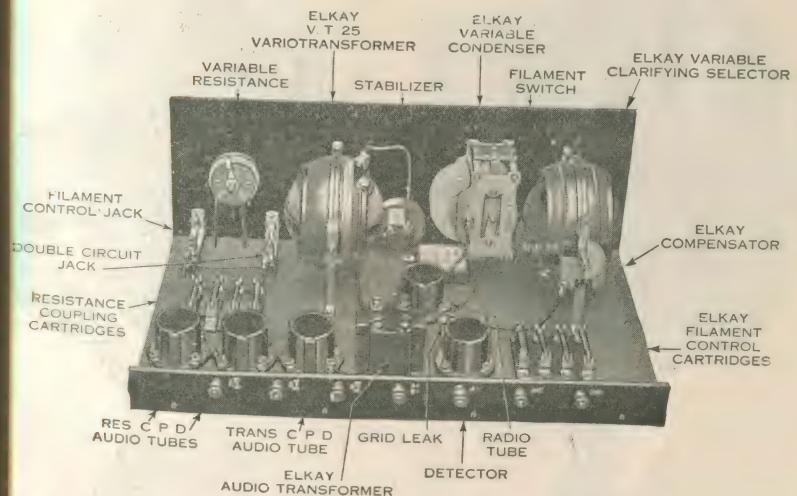


This instrument satisfies the demand for a tuner radio frequency transformer so designed that it will amplify equally throughout the entire broadcast range, delivering results equivalent to at least two stages of fixed radio frequency transformers. This low loss radio frequency amplifier consists of an aperiodic primary closely coupled to a secondary which is an entirely inductive device. The secondary can be varied from 180 to 550 meters. Due to the close coupling between the two circuits, the primary and secondary are tuned to resonance simultaneously. A maximum step-up ratio of one to six is obtained. This particular instrument is ideally used with out Variable Clarifying Selector as the aerial selecting device. It is recommended to those who desire obtaining 2 tube efficiency out of one tube. This instrument may be used with any tube now available on the market, but is especially recommended with the V-201-A or UV-199 tubes.

Price \$11.90

THE ELKAY SUPER-SELECTOR KIT, TYPE 5-K

Is Shown Assembled Below



It contains all the parts required to build the Elkay Super-Selector Kit, Type S-5, except cabinet. (See preceding page).

Supplied complete with blue prints and instructions for quick, simple assembly.

Price \$91.00



THE ELKAY VARIABLE CONDENSER

Type V with Vernier control

Price \$7.70

Type X without Vernier Control

Price \$6.30

Capacity .0005 mfd.

Patented

HEAR THE BALDWIN

When buying a loud speaker, choose carefully. Be sure that you decide on the one that will give you the greatest satisfaction and the best results. Many people have found that, after hearing the Baldwin loud speaker, no other sounds just as well.

You'll understand why that is when you've heard how faithfully the Baldwin reproduces the efforts of each performer before the microphone. And this perfection is attained without the necessity of making any adjustment on your speaker. The Baldwin principle of reproduction is patented and eliminates the inconvenience of adjustment of the unit when being properly tuned and tested at the factory, reproduces with equal efficiency the weakest signal and the greatest volume—without adjustment.

Every genuine Baldwin Loud Speaker is stamped "Nathaniel Baldwin." To avoid imitations, insist upon seeing this name.



The Baldwin Concert Grand, Walnut Grain, hand-finished, nickel base. Price \$40.00



The Baldwin Standard "Known the world over." Price \$25.00



Baldwin Standard Cabinet, beautifully grained Mahogany finish. Price \$30.00



The Baldwin Symphony, non-metallic Horn, finished satin black. Price \$20.00

BALDWIN PRODUCTS

Baldwin Concert Grand Cabinet, Mahogany.

Price \$45.00



Baldwin Concert Grand Loud Speaker Unit \$25.00



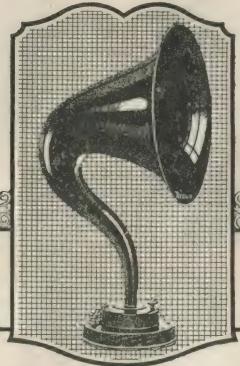
Type "C" Headphones, a favorite with professionals.

Price \$14.00



The Baldwin Phonograph Unit. Makes your phonograph into a loud speaker. Price \$8.50

Brown



Loud Speaker

12 De Luxe Model
4,000 Ohms,

Price : \$20.00

Gramophone Attachment, Large, 4,000 Ohms. Price \$32.50



H 1 Model—4 000 Ohms
Price \$45.00



H2 Model—4,000 Ohm

Price \$17.50



The new Amplion "Junior DeLuxe," Model R-114, 15½ inches high.

Price \$27.50



The Amplion "Dragonfly," Model AR-102.

Price \$13.50

The new Amplion "Junior" Model AR-111, also has the exclusive "dragon-shaped" non-resonating, rubber insulated sound conduit. The "Junior" stands 15½ inches high. The horn, of metal is 10 inches in diameter.

Price \$24.00

AMPLION LOUD SPEAKER UNITS WITH ADAPTOR TO FIT TONE ARMS OF PHONOGRAHS



The Amplion Standard Phonograph Unit, Model AR-67, produces exceptional volume without the use of a battery or power amplifier. Ideal for the average home and purse. Adjustment knob at rear of all Amplion units permits "tuning" the mechanism of each individual set.

Price \$17.50

AMPLION "CONCERT TYPE" PHONOGRAPH UNIT

The Amplion "Concert Type" Phonograph Unit, Model AR-35 produces extraordinary volume without the use of a battery or power amplifier. Is equipped, however, with a double resistance switch to permit use with a power amplifier if extreme volume is desired.

Price \$25.00

BENJAMIN MAJESTIC REPRODUCER

Constant tension diaphragm. No harshness. Unbreakable Horn. Non-resonant.

Sold on comparative tests with any speaker at any price.

Black Ebony finish Price \$16.50

Gold Shaded Flash Finish \$20.00

SUPER SENSITIVE HEAD PHONES

Benjman Durable, Efficient, Comfortable. Price \$4.50

BENJAMIN MAJESTIC PHONOGRAPH UNIT

Price \$25.00



JEWETT QUALITY PRODUCTS

JEWETT PHONOGRAPH UNIT



JEWETT SUPERSPEAKER CONSOLE



As a result of two years' effort, you today offered the Jewett Superspeaker Console—the world famous speaker in cabinet form. (The price in Canada as in U. S.)

Price \$40.00

JEWETT CONE TYPE TALKER

Those wishing something different from the horn type Speaker will find in the Jewett cone type Speaker the newest design in Radio. Size: 17 1/2 inches high by 14 inches wide. (Same price in Canada as in U. S.)

Price \$20.00

JEWETT SUPERSPEAKER

Here is a big handsome instrument which has revolutionized Radio Reception for thousands—which has opened new vistas of distance—which has given its happy owners results in accurate, full-toned reproduction they had never even dared to hope. (Same price in Canada as in U. S.)

Price \$30.00



2158 B Upright
Volt Price \$2.60

JEWETT VEMCO



Adjustable Phonograph Attachment. In purity of tone and in accuracy of its reproduction of phonograph music sets an extremely high standard. There is only one VEMCO and JEWETT builds it. (Same price in Canada as in U. S.)

Price \$2.60..



BURGESS A, B, AND C BATTERIES



Price \$5.20

No. 2306 B 45 Volt. Tapped



No. 5308 B Upright
45 Volt. Tapped Price \$2.00

BURGESS "A" "B" AND "C" BATTERIES



5156 B 22.5 Vt. Plain
22.5 Volt Price \$2.00



No. 2308 B Upright 45 Volt.
Tapped at 22.5 Volt. Price \$5.20



No. 5306 B 45 Volt
Tapped Price \$4.00



No. 2370 C 4½ Vt. Plain
Price 70c



No. 5158 B Upright 22.5 Vt.
Price \$2.00



No. 5540 C 7½ Vt. Tapped
at 1, 1½, 3, 4½ and 6 Vt.
Price \$1.00



No. 4156 B 22.5 Vt. Plain
Price \$1.75



No. 5360 C 4½ Vt.
Price



No. 6 A 1½ Vt.
Price 60c



No. 772
Upright
45 Volt
Tapped at
22½ Volts
Price \$5.20



No. 771 4½
C. Bat. Tapped
3 Volts.
Price



No. 765
22½ Volts
Small, Plain
Price \$2.00



No. 766 22½ Volt
Large Tapped . Price \$2.60



No. 764T Medium 22½
Volt, Tapped. Price \$2.10



EVER READY BATTERIES

No. 7411 1½ Vt. Dry A Bat . \$2.75
No. 7221 3 Vt. Dry A Bat. . . \$2.75
No. 7131 4½ Vt. Dry A Bat . \$2.65
No. 7141 6 Vt. Dry A Bat . . \$2.75

WDR-90 6 Vt. 90 Amp.
Price \$22.25
WDR-110 6 Vt. 110
Amp. Price . . . \$26.25



Dry a Bat. Price 60c
No. 7111 Single 1½ Vt.



VALLEY BATTERY CHARGERS AND B BATTERY ELIMINATOR



ing carbon-silver contacts.

25 cycle Price
60 cycle Price

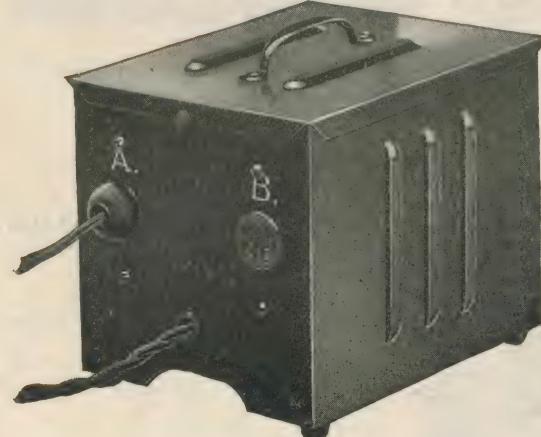
VALLEY B ELIMINATOR

Operates from 110 volt lighting circuit. Absolutely no hum, equalizing dry or storage B batteries at their best. A convenient and positive control of voltages is provided: Detector 0-45; Amplifier 65-140. Provides sufficient plate current for from 1 to 8 tubes.

Built in black case, with mahogany bakelite panel.

25 cycle Price
60 cycle Price

SERVICE A AND B BATTERY CHARGER

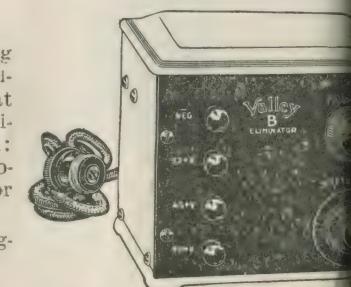


A quick reliable duty charger, guaranteed. type charger. adjustments needed for charges 6 or 12 A battery.

Charges 24, or 120 Volts of B Batteries.

110 Volt A. C.
60 Cycle.

Price
Including 2 amp



FRANCE SUPER-CHARGER

Latest and the Greatest Achievement in Battery Chargers

The France Super-Charger once used, will last a life time and handle every charging need of radio fan or motorist.

It has no expensive bulbs or fuses to replace, no acids to spill to give off fumes harmful to health and ruinous to furniture. 6 or 8 volt Radio A, or Automobile Batteries at a 5 to 7 ampere rate, tapered as battery is charged; and up to 120 volts of batteries can be charged at varying rates as desired. This is regulated by size of ordinary lamp bulb screwed in socket right side of charger.

Volt 50 or 60 cycle Price
1 volt, 25, 30 or 40 cycle Price \$30.80
\$33.60



BALKITE RADIO POWER UNITS

FANSTEEL
Balkite
Battery Charger



Balkite Battery Charger can be used while the set is in operation. The Balkite Battery Charger for radio "A" 6-volt batteries is the most popular battery charger on the market. Over 150,000 are in use. It is the only charger which is commonly used while the set is in operation. It is more than a battery charger—it is an unfailing power of supply for the "A" circuit and absolute insurance against run-down "A" batteries. If your battery should happen to be low the Balkite Battery Charger may be turned on and it will immediately supply enough current to operate the set, without disturbing sounds. Many Balkite owners never give their "A" batteries a thought, merely turning the charger on when they turn on the set. If the charger is used during reception it is not necessary to charge the battery at any other time.

The charging rate is 2.5 amperes, the rate specified as ideal by battery manufacturers. It delivers a taper charge, and cannot damage the battery by overcharging. It cannot discharge or short circuit the battery even if left permanently connected. It is not affected by fluctuations in line voltage or by extreme temperatures. It will charge a completely

dead battery. Current consumption less than $\frac{1}{2}$ c per hour. The operating instructions are that it be properly connected to the battery and the current turned on. Also charges automobile batteries, and batteries in multiples of 6 cells. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

Price

\$27

FANSTEEL Balkite "B" "B" Current Supply

Balkite "B" eliminates "B" batteries and supplies plate current from the light socket.

Balkite "B" is the outstanding development in radio. It replaces "B" batteries of all types and furnishes plate current from the light socket. It is one of the greatest advances ever made in simplicity and ease of radio operation. It makes a positive, unfailing source of plate current supply always available by merely turning on the light socket. It practically eliminates the attention you give your "B" circuit, greatly reduces the attention you give your set.

With Balkite "B" there are no "B" storage batteries to recharge, no dry "B" cells to replace. With its use the plate current never varies, but is always exactly what is required.

Balkite "B" keeps the plate circuit always operating at maximum efficiency, so that your set is able to deliver at all times the best there is in it. It eliminates the possibility of poor reception because of run-down or weak "B" batteries.

Like all other Balkite Radio Power Units, Balkite "B" has no bulbs, and nothing to wear out or replace. It requires no changes or additions to your set. The binding posts provided are simply connected by means of leads to the corresponding connections on the set. Once adjusted to the requirements of your set, it needs no further adjustment and can be put in operation at any time by merely turning on the current. It needs no attention other than the addition of water about once a year.

Balkite "B" may be used with either the storage battery or dry cell type of tube. It gives tubes longer life, for with its use they are not overworked.

You cannot realize what difference Balkite "B" makes in radio reception until you have heard a set both with and without it.

Balkite "B" for sets of 5 tubes or less. This model is especially designed to serve sets of 5 tubes or less, or sets where blocks of four 22½-volt batteries are recommended. It is also designed so that in most cases it will fit in your present dry cell compartment, occupying about the same space as a large (not extra large) 45-volt dry "B" cell. It is 8 3/16 in. long and 8 in. high, 3 1/4 in. wide. Its current consumption is very low, being less than 1/20c per hour. Operates from 110-120 AC 60 cycle current.

Price

\$49.50

Balkite "B" II for sets of 6 tubes or more. Balkite "B" II is the same as Balkite "B" except that it is universal in application and will serve any radio set, including sets of as many as 10 tubes or more. It is a unit of much greater capacity and flexibility, with a maximum current capacity of 40 milliamperes at 90 volts. Serves any type of tube. Size 9 in. high, 6 1/4 in. wide, 7 1/2 in. deep. Current consumption less than 1/20c per hour. Operates from 110-120 AC 60 cycle current. Special model for 50 cycles.

Price

\$75.00



U.S. Pat.
May 27, 1924

The addition of these two new units makes Balkite one of the most desirable lines in radio.

Balkite Radio Power Units provide uniform constant voltage for both the "A" and "B" circuits. They improve and simplify radio reception. With their use your current supply is never low. They reduce the amount of attention required by the set.

All Balkite Radio Power Units are entirely noiseless, simple and unfailing in operation, have no bulbs or moving parts, nothing to adjust, break or get out of order, and require no changes or additions to the set.

Fast Moving—Trouble Free—Well Advertised

For the radio dealer, the Balkite line has always been one of the most valuable and profitable in the entire field.

The addition at this time of two new Balkite Radio Power Units makes it even more valuable and profitable than ever before. The Balkite Battery Charger you already know. Balkite "B" II you also already know. The Balkite Trickle Charger and the new Balkite "B" now round out the line. Whatever type of set your customer owns, Balkite Radio Power Units will serve it.

Balkite Radio Power Units are trouble-free. They are entirely noiseless in operation. They have no moving parts, no bulbs, and nothing to break or get out of order. They have nothing to replace or renew. They cannot deteriorate through use or disuse—each is a permanent piece of equipment. They require no other attention than the infrequent addition of water. They require no changes or additions in the set.

Once sold, Balkite Radio Power Units stay sold. The profit made on them is clean. They reduce not only the amount of attention the owner must give his set, but enable the dealer to make clean, trouble-free installations. They are unfailing in operation.

Few products have contributed as much as Balkite Radio Power Units to radio progress and ease of operation. The Balkite principle is one of the most soundly established principles in radio. Because of their exclusive features Balkite Radio Power Units have rapidly taken their place among the most popular of all radio products. They are fast-moving.

Balkite Radio Power Units have always been consistently and thoroughly advertised. This year they will be more thoroughly advertised than ever before—they will be backed by one of the heaviest advertising campaigns ever given a radio specialty. They will be advertised in trade papers, newspapers, national magazines. The Saturday Evening Post.

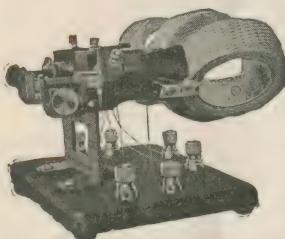


U.S. Pat.
May 27, 1924

They will be exhibited at radio shows. Literature, window cards, window transfers and posters are available to the dealers. For this material consult your jobber, who will order through our factory representatives.

Cash in on Balkite popularity. It means a steady profit for you. Read the specific applications of the units within. Then send in your order early. Keek your stocks up. Order through your jobber.

The Unipower, manufactured by the Gould Storage Battery Company, is equipped with a special Balkite Radio Power Unit.



MICROMOUNT

This Pacent Panel Receptacle takes any of the standard coil plugs. When mounted in a panel it provides for a horizontal adjustment and rotation of the coil. An excellent three-coil mount may be made of this in combination with two microcouples.

Price \$1.50



COIL PLUG RECEPTACLE

The Pacent Coil Plug Receptacle is made to take any of the standard coil plugs. Made of bakelite with brass metal parts nickel plated. A positive contact is assured when this receptacle is used.

Price \$1.00

PACENT RADIO ESSENTIALS

COIL PLUG

The Pacent Coil Plug is adaptable to any size standard coil. Easily connected or transferred from one coil to another. Two set screws on inside face of plug connect with coil ends.

Tightening screws on front face of plug grip the coil with a vice-like hold.



Price \$1.00

PACENT "MICROCOUPLE" COIL PLUG RECEPTACLE

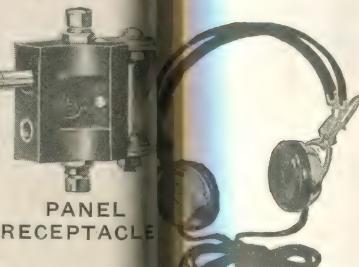
A mounted coil connected to this receptacle be moved both horizontally and on its axis which gives a fine degree of coupling. Extension can be connected on right or left hand side. Metal bracket facilitates mounting.

An efficient 2 or 3 coil mounting may be as

sembled with this "Microcouple and Panel Re-

ceptacle.

Price \$2.00



PANEL RECEPTACLE

DUO-LATERAL COIL

The Pacent Duo-lateral Coil—standard equipment with Government and commercial constructors. Coils are mechanically sturdy and known for their low losses. Particularly useful where great selectivity and sharp tuning is desired. Adaptable for use in wave traps, in the circuit tuners, as an oscillating coil, or as a loading coil. Number of turns—25 to 1500.

Unmounted Price from 55c to \$

Mounted Price from \$1.55 to \$

THE LABORATORY RESISTOR

The Pacent Laboratory Resistor is constant in value. Each unit individually calibrated. Resistance element enclosed in a moisture-proof unbreakable tube having ends of heavy turned brass, highly polished.

Values: 1, 10, 1/4, 1, 1/2, 2, 3, 5. Meg-ohms 50c each
10,000, 25,000, 50,000 ohms 75c each



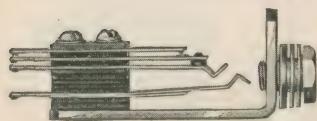
Slit brass tubing is fitted so that it may be moved from one end to the other, thus forming a condenser of very low capacity, the glass tube being the dielectric. The base is Radion. Maximum capacity is obtained when centre of brass tube coincides with centre of space between electrodes.

Price 40c

BALCON

The Pacent Balcon—designed for use where a capacity balance is desired. The Balcon consists of two nickel-plated electrodes enclosed in a 1/4 inch glass tube. Around the outside a piece of nickel-finished

PACENT RADIO ESSENTIALS



No. 68

No. 68—Four Spring Automatic Triple Circuit Jack. Is used for filament control of latest tuned radio frequency circuits.

Price \$1.00

No. 69—Five Spring Special Automatic Jack. Is used for filament control of latest radio frequency circuits.

Price \$1.00



No. 69

No. 70—Six Spring Automatic Jack. useful for filament control of latest frequency circuits.

Price \$1.00

PACENT RHEOSTAT AND POTENTIOMETERS

A porcelain base is used on these Pacent Rheostats and Potentiometers. Pacent type moulded knob. Gold or silver finished dial (may be used as a drilling template). Two-unit construction; winding spaced to give maximum cooling effect. A 3/16-inch shaft is used having flat sides to facilitate mounting. Elongated holes accommodate varying spaced mounting holes on panel. Various resistances with corresponding capacities.

Price (with dial) \$1.00



The Pacent Twinadapter—connects two heads in series permits a single jack to accommodate two plugs. Convenient for tuning loud speaker phones. Contacting members are strong and lasting.

Twinadapter Price \$1.00



UNIVERSAL PLUGS

The Pacent Universal Plug—one of the most popular use today. Standard equipment on many well-known make loud speakers. To connect—insert cord tips in connecting springs and clamp shells together. Polarity stamped on connector springs.

Ordinarily furnished in black. Large quantities to order is mahogany finish.

Price \$1.00

PACENT RADIO ESSENTIALS

MULTIJACK

The Pacent Multijack meets the need of owners of sets with phone binding posts—connects two or three headsets in series without interruption of program. Consists of three jacks in a series in a moulded unit. Can be attached in any convenient position with long or short leads. Terminals marked to indicate polarity.

Price \$1.00



LOOP PLUG

The Pacent Loop Plug allows loop aerial to be rotated and pointed toward desired station when used with any standard jack. For results a Pacent Heavy Duty (Loop) Jack should be used.



75c

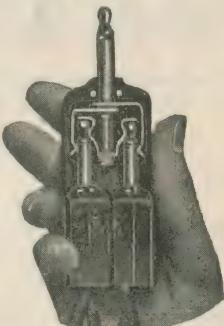
AUTOPLUG

The Pacent Autoplug—entirely shock-proof. To connect—drop cord tips in recesses in bottom of the plug shell, press in push buttons, then release—a biting grip results. Polarity of springs indicated by red (+) and blue (−) push buttons. Shell of Bakelite. No screws used in its assembly.

Autoplug, Price 85c
Autoplug (with gold plated metal parts), Price \$1.10



TWINADAPTER



The Pacent Twinadapter—connects two heads in series permits a single jack to accommodate two plugs. Convenient for tuning loud speaker phones. Contacting members are strong and lasting.

Twinadapter Price \$1.00



DUOPLUG

The Pacent DuoPlug takes two pairs of phones in multiple (parallel). Special toggle allows two different size cord tips to be connected at same time. Accommodates practically any type of terminal. Engraving on Bakelite insulator between connectors indicates polarity. Entirely shock-proof.

DuoPlug Price \$1.00

PACENT RADIO ESSENTIALS

DUOJACK

The Pacent Duojack—for use on sets with output binding posts, adjustable connectors fit binding posts of various spacing. Connect headset and loudspeaker in series. Quickly converts binding posts to convenient plug and jack equipment.

Price

JACKSET

The Pacent Jacket—connects one, two or three headsets to a radio set equipped with standard output jacks. Multijack unit has felt and eighteen-inch extension cord.

Price

Similar model with eighteen-inch cord equipped with standard tips for attaching to sets with phone tip jacks or phone binding posts.

Price



UNIVERSAL SOCKET

The pacent Universal Socket takes the new X type tubes as well as the standard UV and C (excepting old 199 and 299 which require Pacent Improved types). The socket being, with the exception of its metal parts, entirely of Isolantite, negligible capacity effect between plate and grid naturally follows. One piece phosphor bronze contact members, with exclusive self-cleansing, side-wiping contact for each tube prong. Supplied in popular mounting type and also for mounting on sub-panels.

Standard Mounting. Price
Prices on other mounting types on request.

JACK SWITCH AND JACK SWITCH ATTACHMENT

The jack switch is for use where a jack type battery control is desired. The attachment will convert movable nipple type closed jacks into a battery switch. Shoulder on shaft provides definite stop.

Jack Switch. Price
Jack Switch Attachment. Price

UV-199 SOCKET

The Pacent UV-199 Socket—especially desirable for portable sets or in cases where compactness of the set is sought. Made of high-grade insulation and fitted with slotted hexagon binding posts. Tube terminal contact springs of phosphor bronze.

Price 60c

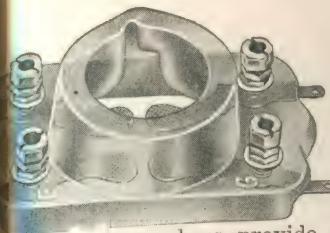
PACENT RADIO ESSENTIALS

GLASS SOCKET

Glass is a good dielectric and the Pacent Glass Socket for UV-199 and C-299 type tubes and Glass Socket for standard 201-A and 301-A type tubes are recommended for installation when lower dielectric losses are desired.

In these socket types the one-piece spring tempered phosphor bronze contact members provide a direct and unbroken electrical path between tube prongs and wiring. Self cleaning, matted contact areas and former soldering lug ends for easy soldering. Necessary reinforcement at possible breaking points. Binding posts equipped with slotted hexagon nuts.

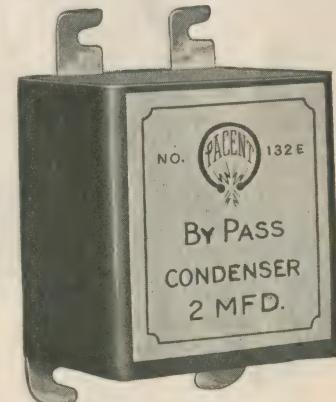
Socket for UV-199 and C-299 type tubes Price 55c
Socket for Standard 201-A and 301-A type tubes Price 55c



BY-PASS CONDENSER

For any service where low impedance for audio and radio-frequency currents is desired. The by-pass condenser prevents the loss of power in A or B batteries by keeping the fluctuation in the current out of the batteries. Sturdy mechanical construction features this item. The terminals provide for either horizontal or vertical mounting. Finished attractively in black.

Various capacities from .1 mfd. to 4.0 mfd. Price from 95c to \$4.00
Prices of greater capacities and higher ratings for filter circuits on application.



BATTERY SWITCH

This Pacent switch is produced under high standards of workmanship. Its action is positive. Solderless contact screws are used.

Price 55c



THE PACENT MICROVERN

A vernier dial for real sharp tuning. No gears. No backlash. Exclusive Radiofile feature permits permanent logging and direct reading of stations by name, wave-length or frequency. 5 to 1 vernier ratio. Device is 4 1/2 inches in diameter and provides an electro-static shield. To mount—slip it on condenser shaft and tighten set screw. A small brass bolt anchors it in place. Silver and gold finish.

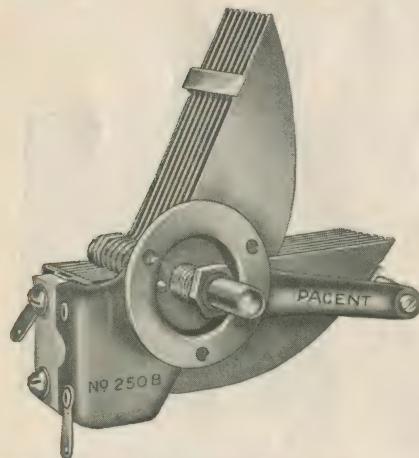
Price \$2.75

PACENT RADIO ESSENTIALS

AUDIOFORMER

The Pacent Improved Audioformer, of striking and unique appearance, gives an exceptionally high degree of amplification over entire band of sound frequencies. Ratio of 3 1/2 to 1 permits use in either first or second stage of audio frequency amplification without distortion and reaction. The case is grounded to the base. The binding posts are located at the bottom thus keeping wiring close to the base below the level of the sockets.

Mounted, Price \$5.00
Unmounted, Price \$3.50

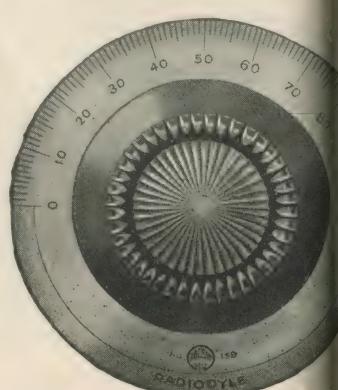


frequency circuits .00035 Mfd. Max
23 paltes for super-hetrodyne circuits .0005 Mfd. Max Price

RADIODYLE

The Pacent Radiodyle is an accurate, practical dial. Its main feature lies in its beautiful appearance. There is a pleasing contrast of the fluted black knob with a silver-finished metal back. The knob is made of Bakelite, shaped to be comfortable in the fingers. The minute calibrations are in black, showing clearly against the satin silver finish of the metal. It is three inches in diameter. Supplied in silvered and gold finish.

Price 40c



PACENT RADIO ESSENTIALS

RADIOFILE



Provides a new and convenient means of recording stations by name wave-length. Supplied with insulating disc. An electrostatic shield provided by grounding one mounting pin. Fits behind all standard size dials, and accommodates all standard condenser shafts. Satin silver finish will take erasures. Supplied with mounting pins and in silvered and gold finish.

Silver or gold finish for 3-inch dial Price 40c
Silver or gold finish for 4-inch dial Price 50c

ALLEN BRADLEY PRODUCTS

BRADLEYSTAT

Perfect Filament Control

The Bradleystat is a graphite disc rheostat for radio filament control. No wire rheostat can duplicate the stepless, noiseless control obtained with the Bradleystat, ranging from approximately 1/4 ohm to 100 ohms. By having your set equipped with Bradleystats, you can use any tube now on the market at any time, without changing the rheostat or your wiring connections.

Bradleystat is arranged for a "one-mounting.



The Bradleystat is the smallest and most satisfactory rheostat that you can install on your set. Price \$2.50

BRADLEYLEAK

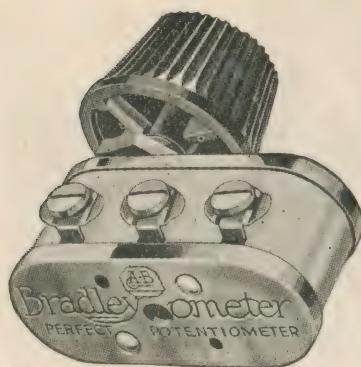
The Perfect Grid Leak

The Bradleyleak is an adjustable graphite disc grid leak with a stepless, noiseless range from 1/4 to 10 meg-ohms. A .00025 Mfd. fixed condenser can be furnished to fit the Bradleyleak terminals. One-hole mounting is provided, as well as holes for base board mounting. Requires only 11/16" space behind panel.

The Bradleyleak is vitally essential for sensitive circuits. It is unaffected by moisture or atmospheric changes. Is not subject to wear and will not lose its resistance. The Bradleyleak will add to the neat appearance of your set.

Price \$2.50
Condenser (.00025 Mfd.) extra 50c





Price, 200 ohm
Price, 400 Ohm

BRADLEYOHM

Perfect Variable Resistor

The Bradleyohm is an adjustable resistor made in five ranges as follows:

Bradleyohm No. 1 .	100 — 1,000 ohms
" " 5	1,000 — 10,000 ohms
" " 10	10,000 — 100,000 ohms
" " 25	25,000 — 250,000 ohms
" " 50	50,000 — 500,000 ohms

The use of graphite discs assures a stepless and noiseless control. The Bradleyohm is unaffected by atmospheric changes or moisture. It is non-inductive.

A one-hole mounting is provided, as well as holes for baseboard mounting. All metal parts are nickel-plated and polished. Extends only 11/16" behind panel.

Price, all ranges \$2.75

BRADLEYOMETER

The Perfect Potentiometer

The Bradleyometer marks a distinct advance in potentiometer construction. Because of the use of the graphite principle, a stepless, noiseless variation of potential is obtained. It eliminates troubles due to corrosion and breaking of fine wires.

The Bradleyometer is made in two sizes, 200-ohm and 400-ohm.

The absence of inductance, noise, other disturbing elements makes the Bradleyometer the best potentiometer for any radio circuit.

Price, 200 ohm
Price, 400 Ohm



Bradleyohm

BRADLEYUNIT

Amplifier Resistors

The Bradleyunit Amplifier Resistor Kit contains an assortment of Bradleyunits of correct resistance values for a resistance-coupled amplifier. Since considerable difficulty has been experienced with some types of fixed resistors that do not remain constant, the Bradleyunit Amplifier Resistor Kit is designed to supply correct resistors for replacement of unsatisfactory units. Bradleyunits eliminate the troubles common to most resistors, because they do not vary resistance with age and they are not affected by atmospheric changes or moisture.



Bradleyunits Fit Standard Mountings

Bradleyunits are of correct size to mount in standard resistor clips. It is only necessary to replace defective or worn-out resistors with Bradleyunits of the same rating. The Bradleyunit Amplifier Resistor Kit also furnishes the correct resistors for the set builder who wishes to build his own resistance coupled amplifier. Any standard clip or resistance mounting may be used. Catalogue number and ratings of Bradleyunits in the Amplifier Resistor Kit are as follows:

Quantity	Cat. No.	Ohms	Megohms
3.....	100R.....	100,000.....	.1
1.....	250R.....	250,000.....	.25
1.....	500R.....	500,000.....	.5
1.....	1000R.....	1,000,000.....	1.

Mail Price for Resistor Kit \$5.75

BRADLEY-AMPLIFIER

Resistance-Coupled—Perfect Audio Amplifier

The Bradley-Amplifier is a 3-stage resistance coupled amplifier that amplifies without distortion and is unequalled for clarity of tone and faithfulness of reproduction. The Bradley-Amplifier is supplied ready to connect to any form of tuner and greatly improves tone quality when used to replace transformer coupled amplifiers.

Bradleyunits insure reliable operation

The resistors used in the Bradley-Amplifier are Bradleyunits. They are made of a special composition molded under terrific pressure and baked until impervious to moisture. Bradleyunits do not deteriorate with age and their resistance is not affected by moisture or atmospheric changes. They do not rely on hermetic sealing for protection. They are as durable as marble. For this reason, the Bradley-Amplifier reproduces tone qualities as faithfully after years of service as when first installed.

Only the tube sockets and terminals of the Bradley-Amplifier appear above the molded bakelite base.

Compact, dust-proof design.

The Bradleyunits and condensers are mounted within the molded bakelite base. All joints are soldered. Bradleyunits are soldered into the base to avoid added resistance due to corrosion between clips and resistor mountings. Overall dimensions of base are 9 1/4 by 3 1/2 inches. The Bradley-Amplifier is so compact that it may easily be used to replace transformer coupled amplifier of sets in service. Such replacement invariably results in improved tone quality because the Bradley-Amplifier does not distort.

The Bradley-Amplifier is packed in an Allen-Bradley checkered display carton. This attractive carton adds distinction to counters and window displays.

Uses either old or new tubes

The sockets of the Bradley-Amplifier are built to take UV-201A or similar storage battery tubes. They also will handle the new UX series of radio tubes, either dry cell or storage battery types.



Easy to Install

Terminals are provided on the Bradley-Amplifier for all necessary connections, including tuner and loudspeaker. The Bradley-Amplifier is a complete unit ready for mounting with any kind of tuner. The design of this unit makes the replacement of transformer coupled very convenient in any set. Full instructions for connecting the Bradley-Amplifier to the various popular circuits are furnished with each. These instructions are clear and to the point; they will eliminate a lot of questions.

Retail Price

BRADLEYUNIT

Perfect Fixed Resistor

Bradleyunits are superior to other resistors because they do not change with age, and are not affected by atmospheric conditions. Bradleyunit is moulded from a special composition which is impervious to heat and moisture. A special process, developed by the Allen-Bradley Company, makes possible the manufacture of accurate, moulded resistors. Every Bradleyunit is tested and guaranteed to be within 5% of its resistance, which accuracy is remarkable.



Bradleyunits find extensive use in resistance coupled amplifiers and as leak resistors. They are used extensively in place of resistance units of other resistors which have deteriorated. Bradleyunits provide a resistance value most constant. The Bradleyunit is a quality article.

Bradleyunit
Cat. No.

	Ohms	Megohms
2.5R	2,500	.0025
5R	5,000	.005
7.5R	7,500	.0075
10R	10,000	.01
12R	12,000	.012
25R	25,000	.025
50R	50,000	.05
75R	75,000	.075
100R	100,000	.1
200R	200,000	.2
250R	250,000	.25
350R	350,000	.35

	Bradleyunit Cat. No.	Ohms	Megohms
	500R	.500,000	
	750R	.750,000	
	1000R	1,000,000	
	1500R	1,500,000	
	2000R	2,000,000	
	2500R	2,500,000	
	3000R	3,000,000	
	4000R	4,000,000	
	5000R	5,000,000	
	7500R	7,500,000	
	10000R	10,000,000	

Price, all ratings

BRADLEYSWITCH

Perfect Battery Switch

A compact, totally enclosed battery switch for A and B battery circuits.

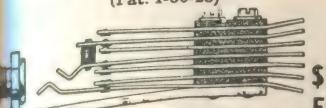
Provided with one-hole mounting. Metal parts are nickel plated, and push button is polished black.

Ratings: Maximum current—3 amperes; maximum B battery voltage—135 volts.

Price 85c



CARTER

JACKS FOR NEUTRODYNE AND OTHER CIRCUITS
(Pat. 1-30-23)\$1.30
Each

Carter Hold-Tite Jack No. 107. Seven springs; opens three and closes one contact. Double circuit, double automatic filament control. Universal Neutrodyne Jack. Code No. 107.

\$1.20
Each

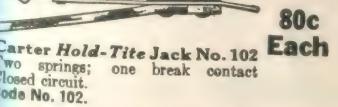
Carter Hold-Tite Jack No. 106. Six springs, breaks three contacts. Used in Freed-Eisemann type of circuit. Code No. 106.

\$1.00
Each

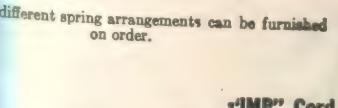
Carter Hold-Tite Jack No. 104-A. Four springs; makes one and breaks one contact. Used in first stage audio Freed-Eisemann type of circuit. Code No. 104-A.

90c
Each

Carter Hold-Tite Jack No. 103-A. Three springs; makes one and breaks one contact. Code No. 103-A.

80c
Each

Carter Hold-Tite Jack No. 102. Two springs; one break contact. Closed circuit. Code No. 102.

90c
Each

Carter Hold-Tite Jack No. 104. Four springs; breaks two contacts. Double circuit. Code No. 104.

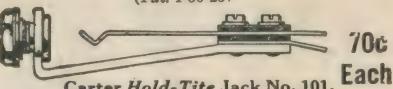
1.10
Each

Carter Hold-Tite Jack No. 105. Five springs; opens two and closes one contact. Double filament control. Code No. 105.

CARTER

"HOLD-TITE" JACKS

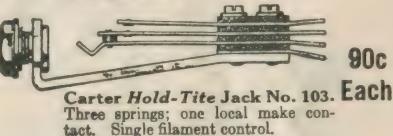
(Pat. 1-30-23)

70c
Each

Carter Hold-Tite Jack No. 101. One spring. Open circuit. Code No. 101.

80c
Each

Carter Hold-Tite Jack No. 102-A. Two springs; one break contact; frame insulated. Closed circuit. Code No. 102-A.

90c
Each

Carter Hold-Tite Jack No. 103. Three springs; one local make contact. Single filament control. Code No. 103.

1.00
Each

Carter Hold-Tite Jack No. 104. Four springs; breaks two contacts. Double circuit. Code No. 104.

1.10
Each

Carter Hold-Tite Jack No. 105. Five springs; opens two and closes one contact. Double filament control. Code No. 105.

Jacks with different spring arrangements can be furnished on order.

Jacks with different spring arrangements can be furnished on order.



Price

"IMP" Cord Tip Jack
replaces binding post for phone cord; provides easy method of connecting any circuit using standard phone cord-tips or "IMP" plugs. Nickel plated. Phosphor-bronze spring. Mounts in $\frac{3}{8}$ inch hole. Cut half size.

30c

SPECIAL MOUNTING SCREWS
FOR SUB-PANEL

When it is desired to use jack or switch frame to support sub panel or tube shelf, as shown, we will furnish long mounting screws which provide a more attractive and secure mounting than the old method of drilling jack frames.

CARTER JACK SWITCHES



Two springs; closes one contact; used to close the A battery circuit.
Code No. 2 Jack Switch. Price...\$1.00 ea.



Three springs; opens one and closes one contact; for switching from long to short wave and from one dry A battery to another.
Code No. 3 Jack Switch. Price...\$1.15 ea.



Four springs; closes two contacts; used for cutting in second head set, also for adding a second cell in parallel.
Code No. 4 Jack Switch. Price...\$1.30 ea.



Six springs; opens two and closes two contacts; can be used to switch battery charger and loud speaker on and off, etc.
Code No. 6 Jack Switch. Price...\$1.60 ea.

CARTER "TU-WAY" PLUG



Takes one to four head sets at same time.
Takes all types of cord tip terminals.
No tools needed. Large knurled screw heads.
Fits all jacks.

Standard Carton: 20
Price "Tu-Way" Plug..... 60c

CARTER "ONE-WAY" PLUG



Standard Carton: 20
Price, "ONE-WAY" Plug.....

50c



CARTER "IMP" BAT SWITCH

Quarter Turn Snap makes positive contact and "Off" name plate pointer indicate position of switch. Compact and in operation. One mounting.
Price complete.....
Mahogany Knobs 5c



CARTER "IMP" LOOP SWITCH

Operates same as "Imp" Battery Switch except a key turns switch instead of a knob. Three with each switch.
Price.....

CARTER FLAT PLUG

We believe this will be the most popular plug in the Radio field because it fully meets all of the conditions demanded by the public. It is new and original in every way, and provides a quick and positive means for inserting and removing the cord tips without the use of triggers, push buttons and other devices now employed in the so-called automatic plugs. cord-tips are completely concealed so that there is no danger from cords. The same general electrical and mechanical features found in other plugs are incorporated in the design of this new plug.

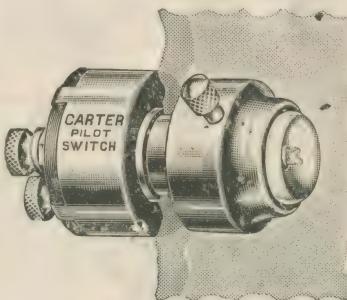
85c

PORTABLE JACK



For use with extension cord to head-set or loud speaker at distant point.
Code No. 1—Price (less cord).....

75c



CARTER "IMP" PILOT SWITCH

The "Imp" Pilot Switch displays a light which is an automatic visible signal indicating that the set is turned on. Only one panel hole required for complete installation of the "Imp" Pilot Switch. Lamp consumes only .15 amp. battery drain is negligible. Can be used either on 6 or 4½ volt circuit.
Price, each..... \$1.50



THE CARTER HIGH-EFFICIENCY LOOP AERIAL

Code No. L-1

Carter Loop Aerial Specifications

Tests made by the Dray-Harper Radio Laboratory
Chicago
Electrical

Pure Inductance, 183 microhenries; Distributed capacity .000034 microfarads.

High frequency resistance measured by Bureau of Standards resistance variation method at following wave-lengths:
500 meters..... 9.0 ohms
400 meters..... 4.5 ohms

Average resistance..... 4.7 ohms

Ratio of inductance to resistance—39 microhenries per ohm.
Fundamental wave-length of loop—148 meters.

Wave-length range when used with .0005 mfd. condenser—from 190 to 990 meters.

Losses due to material in field absolutely minimum.

Mechanical

Diameter of winding, 18 inches.

Overall height of loop, 1 foot, 10 inches.
Weight, 2 lbs., 2 ounces.Wire used—No. 14 solid copper wire with maroon colored outer
ering.Terminals—Three, one at each end and one at mid-point. Sp
binding posts.

Base—Mahogany-walnut fin'sh. Detachable. Felt covered bottom.

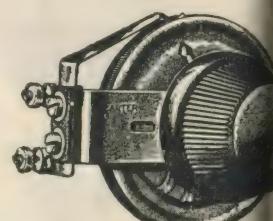
Portability—Can be carried in 18" x 18" x 2" carton.

CARTER'S STANDARD RADIO PRODUCTS

CARTER VERNIER CONTROL
RHEOSTAT

No scraping or jerking; no friction bearing connection; phosphor-bronze contact springs. One hole mounting. Clock spring pigtail connection insures positive and reliable operation. With Black knob and N. P. Pointer.

Code No. 3, 3 ohm; Code No. 6, 6 ohm; Code No. 10, 10 ohm;
No. 20, 20 ohm; Code No. 25, 25 ohm; Code No. 30, 30 ohm.
Price, each type



CARTER INDUCTANCE SWITCH

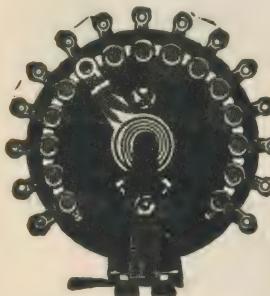
Self-contained. Mounts back of panel only on panel hole drilled. Solder terminals and contact one piece. Adjustable stop. New type knob dial eliminates panel number. Pigtail connection eliminates sliding contacts.

Code No. 115—15 Point Inductance Switch, single arm.

Code No. 215—15 Point Inductance Switch, with dead arm contact. Price

Code No. 109—9 Point Inductance Switch, single arm. Price

Mahogany Dials 5 cents extra

NEW CARTER VERNIER CONTROL
POTENTIOMETER

Nickel-plated phosphor bronze contact arm always makes positive and noiseless contact. Many small turns of resistance wire permit Vernier Control using only one knob. Clock spring pigtail connections eliminate friction contacts. One hole mounting. Binding post connections. Satin silver finish. Complete with knob and pointer.

Code No. 200, 200 ohm. Price, each

Code No. 400, 400 ohm. Price, each

Mahogany Knob 5 cents extra; Black or Mahogany Dials 25 cents extra



CARTER "IMP" RHEOSTAT



There is a large demand from manufacturers for a small, reliable, moderate priced rheostat. The "Imp" Rheostat meets all of these requirements and yet is not cheaply made. It is designed to operate in all types of sets. Only 1 3/8" diameter. Projects only 3/8" from back of panel. New Carter design nickel-plated brass clamp rings hold the resistance element securely in place, and insure reliable service by preventing the turns of wire from coming together. Contact arm is designed to maintain smooth operation and constant pressure at all times. Single hole mounting.

Code No. IR 6, 6 ohm, each \$1.10

Code No. IR-25, 25 ohm, each \$1.10

Other resistances made up to order at same price

CARTER NAME PLATES

It under Jack lock nut, marked,

"Detector" "Telephone" "1 Stage" "Loud Speaker"

"2 Stage" "Radio" "3 Stage" "Loop"

Price, each 5c

Standard Package 50c



Fixed Condensers - Grid Condensers - Resistor Mountings

These Condensers Moulded Under 50 Tons Pressure

Fixed Condensers—List Prices



Capacities	Price	Capacities	Price
.00005 Mfd.	40c	.0025 Mfd.	50c
.0001 "	40c	.003 "	50c
.00015 "	40c	.0035 "	50c
.0002 "	40c	.004 "	50c
.00025 "	40c	.005 "	60c
.0003 "	40c	.006 "	70c
.00035 "	40c	.0075 "	80c
.0005 "	40c	.009 "	80c
.0006 "	45c	.01 "	90c
.0008 "	45c	.015 "	1.25
.001 "	45c	.02 "	1.75
.0015 "	45c	.025 "	2.25
.002 "	45c		

GRID CONDENSERS

Capacities	Price
.00001 Mfd. with Leak M T G	55c
.00025 Mfd. with Leak M T G	55c
.0005 Mfd. with Leak M T G	55c

MICAMOLD FIXED RESISTORS



Capacities

Capacities	Price	Capacities	Price
.25 Megohms	35c	2. Megohms	35c
.3 "	35c	2.5 "	35c
.4 "	35c	3. "	35c
.5 "	35c	4. "	35c
.6 "	35c	5. "	35c
.75 "	35c	6. "	35c
1. "	35c	7. "	35c
1.25 "	35c	8. "	35c
1.5 "	35c	9. "	35c
1.75 "	35c	10. "	35c



Minimum distributed capacity. Greater tuning range. Maximum inductance. Minimum Resistance. Minimum capacity coupling between primary and secondary. Admirably adaptable for single control.

As used in Loss-Less circuit by Ray Gibson (Everybody's Radio, August 29th).

No. 8620, set of 3

No. 8621, single coils

No more straggling wires. Particularly adaptable to Radiola receivers.

BENJAMIN RADIO PRODUCTS



C-H 8008 RADIO SWITCH

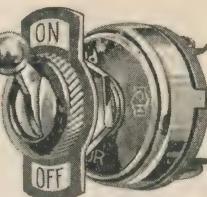
Used by leading manufacturers. Batteries "off" when switch it "in."

Price

C-H 7135. TOGGLE SWITCH

A new departure in battery switches

80c



CLE-RA-TONE SHOCK ABSORBING SOCKET

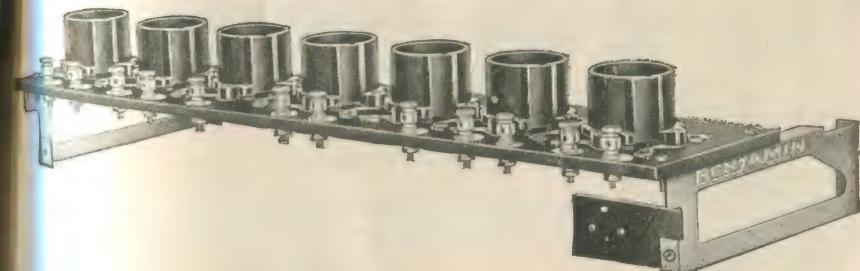
Positively Shock Absorbing

The tube holding element "floats" on perfectly balanced springs made of phosphor bronze, nickel plated.

Price \$1.25



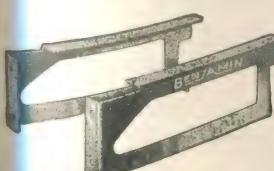
CLE-RA-TONE GANG SOCKETS



Showing complete assembly with Brackets and Grid Leak Panel

	Standard Type	U. V. 199	
No. 8613	\$7.25	No. 8603	\$7.25
No. 8615	14.00	No. 8605	14.00
No. 8626	15.00	No. 8606	15.00
No. 8627	16.00	No. 8607	16.00

Also special designs made for the Autodyne and McLaughlin circuits, 6 and 8 tubes.



SHELF SUPPORTING BRACKETS

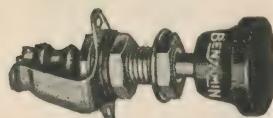
For Convenience in assembly and appearance

No. 8629. Price per pair \$1.00

GRID LEAK PANEL

For use with Shelf Supporting Brackets. For added touch to finish and efficiency

1 1/4" x 2 1/4" x 1/8". No. 8632. Price 20c
1 1/4" x 2 1/2" x 1/8". No. 8633. Price 20c



BATTERY SWITCH

A sturdy, reliable switch at reasonable price

No. 8640. Price 40

BENJAMIN PRODUCTS DISPLAY BOX
(Including C-H Lines)

Consisting of complete line of Benjamin products as listed below:

1 Standard Socket	1 Grid Leak Panel
1 pair Brackets	1 23P Condenser
1 C-H Rheostat, 30-ohm	1 C-H Toggle Switch
1 Benjamin Battery Switch	3 Gang Socket
1 Resistance Unit	1 C-H Rheostat, 4-ohm Vernier
3 Multiple Dry Cell Clips	1 C-H Battery Switch
1 C-H Radioloc	1 C-H Grid Leak
UV-199 Socket	1 Ground Clamp
1 C-H Potentiometer, 300-ohm	1 R. F. Coil
1 C-H Rheostat, 4-ohm plain	1 Audio Transformer 3:1
1 C-H Standard Socket	

Given a prominent position on your counter—this is an excellent introduction of Benjamin lines and is a sales force which never cease work.

No. 9001-K. Price \$40.00

A Winner for all Dealers.

FIVE TUBE RADIO FREQUENCY KIT

Consisting of

2 C-H Rheostats	1 Battery Switch
1 AF Transformer 3:1	3 R. F. Coils
5 Standard Sockets	1 pair Brackets.
3 23P. Condensers	

All high-grade fully tested products approved by the world's radio enthusiasts.

No. 9001-M. Complete with diagram. Price \$48.00

BREMER TULLY RADIO PRODUCTS
"Pioneers of Better Tuning"

The superior quality of B-T design and workmanship are never questioned.

The value of such public confidence cannot be over-estimated—an dealer who concentrates on B-T products is assured of rapid, profit-building turnover.

In addition he secures the added prestige and good will which follows the recommendation of a line of parts and circuits that has never included an item that was not an outstanding success.

B-T parts are at once the envy and the despair of all competitors.

B-T Euphonic Audio Transformer

The B-T "Euphonic" (meaning "pleasing to the ear") is an audio Transformer of unsurpassed merit. Nothing on the market today regardless of size will give better amplification or tone qualities.

It shows the first constructional improvement in years. The special mounting features and placing of terminals allows mounting either side up in such various positions as will eliminate all crossed wires, helping greatly to prevent howling and distortion.

The Euphonic is the result of 20 years of radio experience.

Type 210, Ratio 22 to 1. Price	\$7.00
Type 410, Ratio 4.7 to 1. Price	\$8.00

B-T LABORATORY TYPE LOW LOSS CONDENSER

A masterpiece of mechanical construction, with resistance losses lower than "laboratory standards." The method of die-casting aluminum rotor and stator is exclusively B-T, resulting in absolute rigidity, permanent spacing and yet light in weight and requires no counter-balance.

The "Lifetime" bearing is unequalled in radio. It "grips" the shaft instead of pushing against end of rotor, and is easily adjustable to any degree of friction that suits the user, without endangering plate alignment.

Pure Redmanol insulation is used, rotor is connected by noiseless pigtail and mounting in single hole, or combination.

When used with proper inductance Type L gives true straight line wave length. The finest acting and appearing condenser made.

Code No.	Capacity	No. Plates	Price
L-7	.000125 (or 125 M.M.F.)	7	\$6.00
L-13	.00025 (or 250 M.M.F.)	13	6.25
L-17	.00035 (or 350 M.M.F.)	17	6.50
L-23	.0005 (or 500 M.M.F.)	23	7.00
L-35	.0008 (or 800 M.M.F.)	35	8.00



STRAIGHT LINE FREQUENCY

Certain users prefer condensers giving so-called "straight-line frequency" variation. It should be understood that this is possible only with an inductance designed to suit the condenser.

The B-T Type SLF spaces station channels uniformly over the dial when used with B-T coils, and possesses all the superior refinements of Type L described above.

Code No.	Capacity	No. Plates	Price
S.L.F.-13	.00025 (or 250 M.M.F.)	13	\$7.75
S.L.F.-17	.00035 (or 350 M.M.F.)	17	8.00
S.L.F.-23	.0005 (or 500 M.M.F.)	23	8.00





MULTIPLE CONDENSERS
(Straight Line Wave Length)

The Double Condenser is a necessity in circuits designed for simultaneous tuning. B-T Multiple Condensers are of the same superior construction as the B-T Single Condenser. Compensating "trimmers," an exclusive feature of this instrument, insure perfect balance of the two units at all times.

Code No.	Capacity (each unit)	No. Plates (each unit)	Price
LD-13	.00025 (or 250 M.M.F.)	13	\$12.50
LD-17	.00035 (or 350 M.M.F.)	17	13.25

Note:—Type LD-17 is used with all B-T Torostyle Inductances.

B-T "TOROSTYLE" TRANSFORMERS

When used in efficient circuits the toroidal style Transformer reduces pick-up of local signal as well as inter-coupling and stray feed-back effects. It is a product where the utmost in design and balance is required to insure selectivity and oscillation control. The B-T "Torostyle" Transformer has all that the many years of research and successful experience in inductance design of the B-T organization can put into it.

The attractive appearance of this coil commands instant attention. Seven binding posts are arranged for easy wiring and short leads. Covers full broadcasting wave length range with B-T .00035 Condenser. Used in B-T patented "Counterphase" and other circuits.

Code No.	Price
TA (Antenna Coup'er)	\$5.50
TC (For Intermediate P. F. Stages)	5.50
T4 (For Four-tube Sets)	5.50



KITS FOR BUILDING B-T "COUNTERPHASE"
(Containing B-T "Torostyle" Transformers and Multiple Condensers)

The B-T Counterphase and Nameless are the only circuits that provide for control of oscillation over the complete broadcast range. The method used in covering by exclusive B-T patent, the invention of Harry A. Bremer, an engineer of long standing in high frequency work, who built his first wireless apparatus in 1905.

This method permits a set to be tuned at the highest peak of efficiency at either high or low wave lengths.

The Counterphase is the only practical circuit that allows a third stage of radio frequency—making a six tube set with the sixth tube where it belongs—and securing distant loud-speaker operation with only a short indoor antenna. The results are aided by the use of Torostyle Transformers.

Special balancing double condensers reduce the number of controls to two.

An exclusive B-T Double Resistance controls both oscillations and volume. Operation is simple. Turn it only one way to increase—the other way to decrease.

The pictorial wiring diagrams and instructions showing a special color B-T "Counterphase" Kit No. 6 contains the following parts: 1 TA and 3 TC "Torostyle" Transformers, 2 LD-17 Condensers, 3 Mikro-Mike Condensers, 1 Dual Resistance, 1 wiring form, 1 set blue prints and instructions. (Operates on short indoor antenna.)

B-T "Counterphase" Kit No. 5, same as foregoing except two stages of radio frequency and intended for operation on outdoor antenna; 1 TA and 2 TC Transformers, 1 L-17, 1 LD-17 and 2 M. M. F. Condensers, 1 Dual Resistance, 1 Wiring Form, 1 set blue prints.

B-T "Counterphase" Kit No. 6 (List Price when parts are, purchased individually, \$60.00. Price \$53.00

B-T "Counterphase" Kit No. 5 (List Price when parts are purchased individually, \$47.00. Price \$39.75

Blue Prints and instructions for 5 and 6 tube sets

Price \$1.00

"NAMELESS"

The B-T "Nameless" Circuit, using the original B-T Air Core, 3-circuit Transformers, is too well known throughout the world to need further description. A highly efficient circuit providing oscillation control over complete range.

The "Nameless" Kit No. 3 includes 3 L-13 Condensers, 3 Nameless 3-C Transformers, one of which has adjustable primary, 1 3-plate condenser with dial, a complete set of blue prints and instructions.

Price \$37.00



B-T THREE-CIRCUIT TUNER

The 3-circuit Tuner, an original B-T development, reaches its highest form in this bank wound, skeleton frame, adjustable primary product. A tuner of unquestioned merit for use in one to four-tube sets.

Type B, for broadcast reception (200 to 565 meters with L-13 Condensers) Price \$7.00

Type S. W., for short wave lengths (50 to 150 meters with L-13 Condenser) Price \$5.50

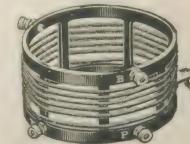


B1T AIR CORE TRANSFORMERS

Two-circuit, bank wound skeleton frame transformer, similar to above described tuner but without rotor. The adjustable primary provides for volume or selectivity. The best unit for adding radio frequency to a 3-tube set.

AC-1 Transformer (Fixed Primary) Price \$3.50

AC-3 Transformer (Adjustable Primary) \$4.25



B-T SHORT WAVE OUTFIT

A short wave outfit with interchangeable coils covering 12½ to 25, 25 to 30, 50 to 100, 100 to 200 meters, with base and rotor.

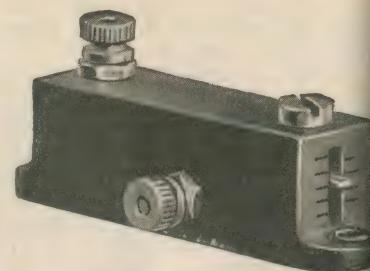


Price \$11.00

B-T MIKRO-MIKE CONDENSER

The B-T Mikro-Mike Straight Line Capacity Condenser gives accurate and permanent adjustment from 1 to 30 M. M. F. Change in capacity is uniform over complete range, with indicator to show relative adjustment. Used in B-T patented circuit or wherever a highly accurate capacity capable of minute adjustment is needed.

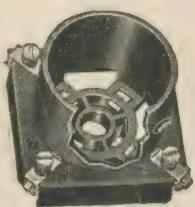
Price \$1.25

**B-T SOCKET**

B-T Universal Socket eliminates use of adapters. Accommodates all new UX base tubes, as well as UV 200 and UV 201-A.

A gripping side contact spring direct from wiring to tube prong makes positive self-cleaning contacts. Keyed screw heads prevent turning. Sidewise spring displacement is impossible. A wide separation of contact springs gives lowest possible capacity. The best socket made. Type UL Socket.

Price \$1.00

**B-T RADIO FREQUENCY CHOKE COIL**

The B-T R. F. Choke is used to increase the efficiency of many circuits by preventing radio frequency currents from entering the audio circuits. Arrangements of windings in a series of banks gives considerable improvement in results.

This unit is housed in a neat bakelite case with binding post terminals. Mounts with single screw.

**B-T VARIABLE HIGH RESISTANCES**

Many new circuits use variable, non-inductive high resistances. B-T Resistances process new and patented features that make them the best obtainable.

A circular resistance element is mounted in a circular bakelite base. Variable engagement is secured by a shoe which slides over a yielding disk, but does not wear against the resistance, consequently continued service does not cause noisy action or change in resistance.



Code No	Maximum Resistance	Price
V H R-2	2,000 ohms	\$2.75
V H R-50	100,000 ohms	\$2.75
V H R-100	100,000 ohms	\$2.75
V H R-200	200,000 ohms	\$2.75

B-T VOLUME CONTROL OR MODULATOR

Similar in appearance and construction to Potentiometer but with 500,000 ohms non-inductive resistance. Used in audio circuits for noiseless adjustments of volume and improvement of tone qualities. Code No. VC-500, Maximum Resistance, 500,000 ohms. Price \$2.75

B-T NON-INDUCTIVE POTENTIOMETER

A variable high resistance similar to that described elsewhere, but with three terminals. Slider connects to centre terminal and varies at either outer terminal to maximum resistance. Stepless, noiseless, and without effect.

Code No. P-400, Maximum Resistance 400 ohms. Price \$2.45
Code No. P-2000, Maximum Resistance 2,000 ohms. Price \$2.75

B-T TUNING CONTROL

An attractive appearance combined with the highest degree of efficiency. A 12 to 1 ratio provides positive control with a smooth easy action. There is no pull or side strain on the condenser shaft to cause wear on the bearings and consequent impaired plate alignment. The same dial works with either right or left turning condensers. A reversible, erasable disc is calibrated on one side in wave lengths for use with B-T Type L and LD Condensers in conjunction with B-T Inductances. The reverse side is for marking station call letters. This is the only dial that reads in fractional degrees, if desired.

Price \$3.50

**BETTER TUNING**

The greatest sales help known to radio. Educates your customers on the value of quality products. Teaches them what's right and wrong in radio. Stirs up interest in various circuits and boosts your sales. Furnished to dealers at cost.

ANTENNA EQUIPMENT
Insulators, Arresters, Etc.

Small 1 1/2" Green Egg insulators. Price 4c

Large 2 1/2" White Egg insulators. Price 10c

Small No. 10 Brown 2 1/2" insulators. Price 10c

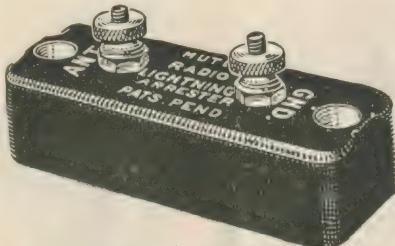


No. 10 Brown Insulator
Price 10c



Medium No. 100 Brown 3" insulators 12c

Short Scred Eye insulator, insulated . . .	10c
Long Screw Eye insulator, insulated, 6" . .	15c
Bulldog Split Nobs, with insulater nail	5c
Rosin Core Salder, 18" lengths. Price per length ..	10c



Muter Approved Lightning
Arrester 70c

Heineman Approved Lightning Arrester	
Price	\$1.50



Heineman Approved Arrester \$1.50



Bamco
Solder
and Flux

Solderall, per tube	25c
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Screw Eye Insulator 10c

ANTENNA EQUIPMENT AND HOOK-UP WIRE



Ross Braided Aerial Wire

Copper 7/22 Stranded Aerial Wire Price, per 100 feet	85c
100, 150 and 200 feet lengths	

Copperweld Aerial Wire, per 100 feet. Price	65c
100 and 150 feet lengths	

Ross Braided Copper Aerial Wire Per '00 feet. Price	85c
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Belden 7/22 Stranded Enamel Aerial Wire, 100 and 150 feet lengths.

Price, per 100 ft. \$1.25

Belden Plain Copper Enameled
Aerial Wire.

Price, per 100 ft 85c

Talking Tape, per 100-ft roll
Price \$1.50



14 Gauge Stranded Rubber Covered Ground and
Lead-in Wire. Price per ft.

25, 50, 100, 150 and 250 ft. lengths



CLEARER SIGNALS

INCREASED RANGE

Ross Flat Ribbon Braided Wire
Price, per 100 feet \$1.25

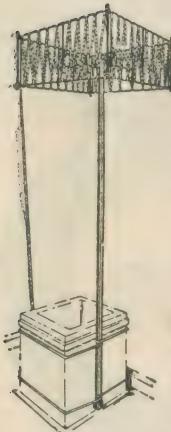
14 Gauge Tinned Copper Hook-up Wire	
Price, per foot	1c
Square Copper Tinned Buss Bar, per 2 feet length.	4c
Round Tinned Buss Bar, per 2 feet length	3c
18 Gauge Rubber Covered Hook-up Wire per foot.	2c



PLAIN SPAGHETTI TUBING, ANY COLOR	
Price, per 36" length	15c

SPECIAL VARNISHED CAMBRIC SPAGHETTI TUBING, ANY COLOR	
Price per 36" length	25c

THE PERFEX AERIAL
(Non Directional)



At Last! You can get more stations with your set without mast. No more blind spots. Increases range, volume, purity, selectivity.

Non-directional, enabling Broadcasting to be received from all directions. Quickly erected. One mast only being required. Reduces interference and fading, enables you to get more stations than any other aerial.

Any number of aerials can be erected on the same roof, without interfering with each other.

The patent "Perfex" Aerial is the outcome of much scientific investigation, resulting in its being the most efficient collector of wireless energy yet devised. As will be seen from the illustrations, it embodies new principles. In the first place, the wire being carried on square spreader, broadcasting can be received equally well from all directions; secondly, the whole of the wire being in a vertical plane, full advantage is taken of the proved fact that a vertical wire collects a greater amount of wireless energy than a horizontal one; and, thirdly, the wire is the most efficient yet invented, taking the form of an open woven tube which exposes the whole surface of each strand to the oncoming ether waves.

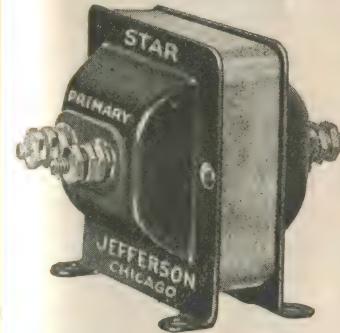
Being the first source of wireless reception, the selection and installation of the aerial is equally important to that of the set, since the latter, whether crystal or tube, cannot give the best results unless the aerial system is as perfect as possible. The improved principles and compact form of the patent "Perfex" aerial enable the most perfect aerial yet devised to be conveniently installed at any address.

Installing Instructions

The efficiency of the aerial increases nearly in direct proportion to increase in height above the set, in consequence the higher the "Perfex" is erected, the better will be the results—it cannot be too high. The downlead should be brought down directly and as near the vertical as possible, and kept four feet away from the building or any other objects. Struts used to keep it clear should be of non-conductive material (such as wood) with a porcelain insulator fixed at the extremity through

which the downlead should pass. Avoid sharp bends or coils in the downlead. The lead-in to the house should be well insulated. Should the reception on the installation of a "Perfex" aerial become harsh, reduce the B Battery voltage on the plate of tubes. A separate ground is required with the "Perfex" as with the usual horizontal aerial.

TRANSFORMERS, AUDIO AND RADIO



Jefferson Star Audio Transformer

Jefferson Star Audio Transformers

Shielded

Jefferson Star Ratio 1½-1 Price \$3.50

Jefferson Star Ratio 3-1. Price . \$3.50

Jefferson Star Ratio 6-1 Price . \$3.75



Jefferson Audio Transformer Type 41

Jefferson Audio Transformer, Type 41

Ratio 3.75-1 Price \$5.50

JEFFERSON PUSH AND PULL TRANSFORMERS

Price per pair \$14.00



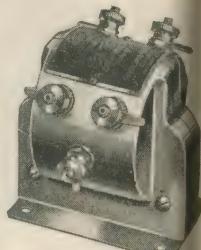
Jefferson Radio Transformer, Type 80

Type 80—1st Stage. Price \$3.00

Type 85—2nd Stage. Price \$3.00

JEFFERSON TUBE REJUVENATOR

For 60 Cycle. Price .....	... \$9.75
For 25 Cycle. Price .....	... \$11.25

TRANSFORMERS AUDIO AND
RADIO

All American Type R 12

All American Audio Transformer, Type R 12. Ratio 3 to 1. Price

\$6.50

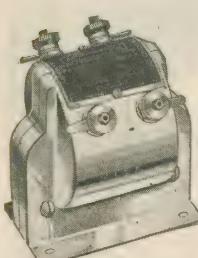
All American Audio Transformer, Type R 21. Ratio 5 to 1. Price

\$6.75

All American Audio Transformer, Type R 13. Ratio 10 to 1

\$6.75

All American Push and Pull Audio Transformers. Price, per pair . . \$17.50

Type R 110
All American

All American Radio Transformers, Long Wave Intermediate Frequency, Range 4,000 - 20,000 meters, Type R 110. Price

\$8.75

All American 10,000 Meter Radio Transformer, Type R 120. Price

\$8.75

RAULAND LYRIC AUDIO TRANSFORMERS

Type R 500. Price

\$12.00

The last word in undistorted amplification



Rauland Lyric

ALL AMERICAN RADIO FREQUENCY COUPLER

All American Radio Frequency Coupler. Range 150 - 650 meters. Type R 130. Price

\$7.50



Killark Transformer

KILLARK SPECIAL AUDIO TRANSFORMER

Shielded Ratio 4 - 1

Nickel Finish. Price

\$3.00

Marconi Distortionless Audio Transformer
Ratio 4 to 1

Features of the Marconi Distortionless Audio Transformer

Lack of Distortion.—High overtones and low notes suppressed by the ordinary transformer, are faithfully transmitted giving a truer, more rounded volume of sound.

Overload Capacity.—By the use of unusually liberal quantities of core iron and copper wire, the Marconi Ideal can handle the heaviest signals without overload and consequent distortion.

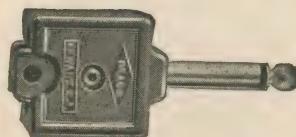
Shielding.—The transformer is completely enclosed in a pressed steel case, insuring against objectionable feed-back effects and howling due to electromagnetic coupling between condensers in the audio circuit.

Moisture Proof.—Due to impregnation of the windings.

Made in Canada. Price

\$7.50

SHOCK-PROOF RADIO PLUG



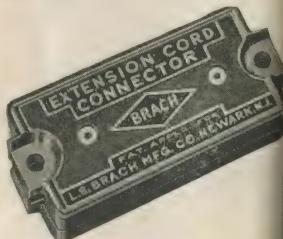
Brach Shock-Proof Plug is original in conception and design. No metal parts exposed to shock the user; attachment to cord automatic; no tools necessary to connect or release; insulated to withstand high voltages for Loud Speakers; perfect electrical contact. Price 85c

EXTENSION CORD CONNECTOR

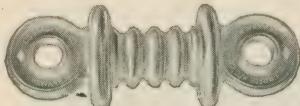
Brach Extension Cord Connector provides the means for moving the Loud Speaker or Headset to another room without disturbing the set; no tools required to make or release connection.

Cord Connector only, Price 75c

Cord Connector and 25-ft. Phone Cord. Price \$2.50
Cord Connector and 50-ft Phone Cord. Price \$3.25



LOW LOSS CRYSTAL INSULATOR



Brach Low Loss Crystal Insulator is of high dielectric value and will not absorb water or accumulate dust or dirt. Large flanges increase surface insulation and provide drip points for rain, snow or ice. Tensile strength far in excess of requirements. Price 30c

WINDOW LEAD-IN

Brach Window Lead-in provides the simplest method for bringing the aerial into the building and avoids cutting of holes in walls. It is provided with Fahnestock phosphor bronze spring clips for securing to window sill and is suitably insulated. Price 25c



TYPE 223 OUTDOOR VACUUM RADIO ARRESTER



Brach type 223 Lightning Arrester is intended for outdoor use and is provided with Fahnestock terminal for attaching directly to the antenna or lead-in wire, bottom binding post for connection to ground wire; vacuum cartridge equipped with overflow gaps insuring capacity as well as sensitivity. Endorsed and listed by the National Board of Fire Underwriters (No. 3962). This arrester has outsold all other types. Price 2.75

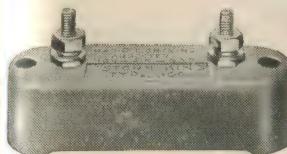
Price 2.75

TYPE 210 INDOOR VACUUM RADIO ARRESTER



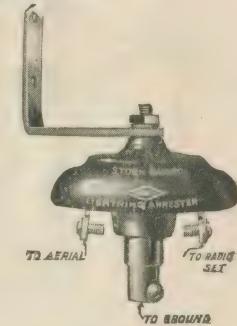
Brach type 210 Lightning Arrester has the same advantages as type 223 listed above and is arranged for indoor mounting. The arrester is furnished in neat moulded base and may be mounted within the building or on the set. It is equipped with two terminals; one for the antenna and one for ground. This type in addition to vacuum tube has the non-grounding overflow gaps. Type 210 arrester is approved by the National Board of Fire Underwriters (No. 3962). Price \$2.50

STORM GUARD NON-AIR GAP RADIO ARRESTER



The Storm King Arrester has been formally approved by the National Board of Fire Underwriters and operates on the well-known Non-Air Gap principle of protection; for indoor installation. Price \$1.25

STORM KING NON-AIR GAP RADIO ARRESTER



The Storm Guard Radio Lightning Arrester is weather-proof and non-grounding. Approved by the Underwriters Laboratories.

Price 1.90

BRACH UNIVERSAL MOUNTING



Universal Mounting — Moulded Base

Price 30c

BRACH FIXED CRYSTAL



Brach Fixed Crystal—A tone tested fixed crystal insuring perfect reception. Fixed Crystal with mounting. Price 1.25

Price 1.25



BRACH SOLDERALL

This is a complete metal solder and flux combined. A small quantity applied to the joints to be soldered when heated will flow and unite the parts the same as wire or bar solder. Furnished in collapsible tubes. Price 25c

BRACH DE LUXE ELECTRIC IRON

This iron comes with a broad guarantee and embodies the latest achievements in electric iron construction. The exclusive use of Isolantite element insures freedom from burnouts; designed for 115 volts A. C. or D. C. circuits; ideal for soldering radio sets, electric wiring or small metal parts. Unless specified will be furnished with a 3/8" radio pencil tip. Other sizes of tips can be furnished if specified. Price \$3.00



BRACH JUNIOR ELECTRIC IRON

Specially designed for soldering radio sets, electric wiring, household utensils or all metal parts; for 115 volt A. C. or D. C. circuits; equipped with asbestos wound element. Unless specified will be furnished with a 1 3/8" radio pencil tip. Other sizes of tips can be furnished if specified. Price 2.50



BRACH PUR-A-TONE AUDIO COUPLER

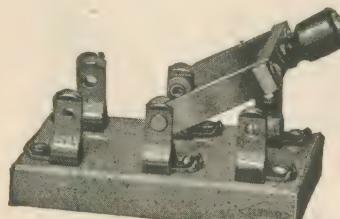
An improved resistance coupler; completely enclosed in bakelite housing in which is placed a large capacity condenser in conjunction with resistance units of proper values insuring the highest quality reproduction; standardized and interchangeable for all stages.

Price \$3.75



BATTERY SWITCHES

Sensory S. P. S. T. Switch	25c
Sensory S. P. D. T. Switch	45c
Sensory D. P. S. T. Switch	45c
Sensory D. P. D. T. Switch	65c
Sensory 3 P. D. T. Switch	\$1.15
Sensory 5 Pole D. T. Switch	\$1.90
Sensory 3 Pole D. T. and 2 Pole Switch, mounted in one base	\$2.00



Sensory D. P. D. T. Porcelain Base Switch



Window Lead-ins 25c

Lightning Switch S. P. D. T.
100 Amp \$3.50



S. P. D. T. 100 Amp Lightning Switch



Adroit Junior Electric Soldering Iron, including two tips . \$3.75

Extra Standard Tip 50c
Extra Pencil Tip 65c
Extra Elbow Tip 65c



COPPER GROUND CLAMP
Price 10c

POCKET VOLTMETERS, AMMETERS AND B BATTERY TESTERS . .



Sterling Voltmeter
34-C



Sterling Voltmeter
No. 45



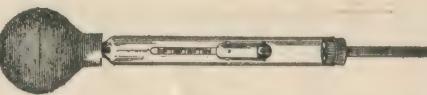
Sterling Ammeter
No. 24

Sterling No. 34-C Voltmeter, 0-50 Volts . . \$3.00
Sterling No. 37 Voltmeter, 0-75 Volts . . \$3.50
Sterling No. 35 Voltmeter, 0-120 Volts . . \$4.75
Sterling No. 24 Ammeter, 0-35 Amperes . . \$1.25
Sterling No. 45 Volt Ammeter 0-35 Amp and 0-50 Volt \$4.50

Testrite Hydrometer No. 120

Large Heavy Rubber Bulb and
Rugged Construction.

Price \$1.25



Testrite Hydrometer No. 100

Testrite Hydrometer No.
100 for A or B Battery
use.

Price 75c

A. B. BATTERY CLIPS, PORCELAIN SWITCHES

Pee Wee No. 45 B & 48 B

(One-Half Actual Size)



Mueller No. 45 B, Pee Wee, Copper, B. Battery
Clip. Price 10c

Mueller 48-B Lead Coated Wet B Battery Clip.
Price 10c



Mueller No. 27

(One-Half Actual Size)

Mueller No. 27 Copper B Battery Clip
Price 25c

Mueller No. 24-A

(One-Half Actual Size)



Mueller No. 24-A Lead Coated A Battery Clip.
Price 20c



Mueller No. 21-A

(One-Half Actual Size)

Mueller No. 21-A Lead Coated A Battery Clip
Price 25c

STERLING UNIVERSAL TUBE TESTER

No 406

No. R 406 Vacuum Tube Tester for dealers
or home use.

No Radio store is complete without a
Sterling Tube Tester.

Price \$24.00



STERLING HOME TUBE TESTER

No. R 401

Tube Tester for home radio users, re-
pair men, service departments, and
dealers.

Finds the bad tube and gives the set
a fair chance.

Price \$12.00



STERLING TUBE TESTER

No. R 402



"Professional" Model Vacuum Tube
Tester for Radio Dealers.

Check Tubes—immediately when re-
ceived from your source of supply.

Check Tubes—when sold over the
counter to your trade.

Check Tubes—match them in sets
and avoid come-backs.

Save money, save argument, save
customers.

Price \$42.00

STERLING VACUUM TUBE REACTIVATOR

No. R 403

For UV 201 A, C 301 A and UV 199
C 299 types of vacuum tubes. The
Emission meter Shows whether a tube
actually needs reactivation, just how
much amplification has been improved
by the process.

Sizes—6" x 7 1/2" x 5" high. Weight
4 3/4 pounds, net. Portable, handle
on back. Black forstine finish. Silver
etched meter dial. Rubber feet. Nickel
sockets for large and small tubes. 5'
lamp cord with plug. Meter equipped.



How it is possible to make tubes come back to life

The thoriated filament tube becomes weak or lifeless as the thorium
disappears from the surface of its filament. It is obvious that if the
coating of thorium could be restored to the surface of the filament the
tube would again be capable of amplification. This seemingly impossible
result can be easily accomplished with the proper equipment. Inside the
filament there remains a considerable supply of thorium and this is what
makes recuperation possible, not only once, but repeatedly.

By the use of a simple and inexpensive electrical device, the Sterling Reactivator, it is found that by burning the filament for a very short time at a high temperature followed by a lower temperature for a longer period, the thorium molecules are brought to the surface of the filament where a new thorium layer is formed. Thus, the amplifying ability of a seemingly exhausted tube is restored to its original strength. Some tubes have been successfully treated as many as seventy-five times with the Sterling Reactivator.

The Sterling Metered Instrument Takes the Guesswork Out of Tube Reactivation.

Unless some means is provided for first actually testing a tube's emission, also for retesting to determine its increase in emission during and after a treatment, then tube reactivation becomes an uncertain process.

- (1) When does a tube need reactivation?
- (2) Is emission improving during treatment?
- (3) What is its filament emission afterward?

Because of the importance of these three questions, the Sterling is provided with a Filament Emission Meter which removes all doubt as to what the reactivator accomplishes. For example, if, when a UV-201-A tube is inserted in the Sterling instrument, the emission meter shows a reading lower than 20, reactivation is necessary. This test can be made instantly simply by moving a lever. Very often tubes will be found in which the filaments are slow to respond to reactivation, yet are capable of much higher emission than will be shown after one short treatment. For example, if the meter indicates only 30 to 40 after the tube has been in the instrument for the prescribed time, the "Low" or "Test" voltage generally results in increasing the emission. Without the meter in the instrument for checking the emission the need of a second treatment would many times not be apparent, and even if it were tried the user would not be certain that he had increased the tube's amplification ability in the least.

Moreover, without an emission meter it is impossible to match tubes—to group those of approximately equal filament emission. In fact, without a meter the determination of the relative filament emission of tubes, to obtain the best reception from a set is no more than a matter of guess-work. With the Sterling metered instrument results are observed, controlled and known to be definite.

Reactivate Tubes Only When a Filament Emission Test Shows They Need it.

Reactivating tubes at regular periods without first testing them to determine the amount of filament emission present, is not recommended. Unless the filament needs reactivation, the process has the tendency to shorten the useful life of the tube. It is good practice, however, to check emission frequently to insure good amplification, also to be certain that one or more tubes are not being operated at too low efficiency, and that tubes are not being blamed for other possible defects in the receiving set.

The filament emission meter used in the Sterling instrument is a unique feature, essential to intelligent treatment of tubes and to accurate results. By its use, treatment of most thoriated filament tubes may be repeated many times with the result that the tubes will give their original amplification after being reactivated. Complete instructions for operating are attached to the bottom of each instrument.

Sterling R-403 Tube Reactivator is just as essential to the proper care and use of vacuum tubes as is the battery charger to the battery. It is built with the same care that has for more than fifteen years made every Sterling electrical product worthy of its name.

For 110 volt (AC) current, 50 or 60 cycles frequency \$17.50
For 110 volt (AC) current, 25 or 40 cycles frequency \$20.00

CELORON RADIO PANELS

Each Panel Guaranteed—Standard Panels Packed in Individual Containers

Size	Thick 1/8"	Thick 3/16"	Thick 1/4"
7 x 10	\$1.05	\$1.58	\$2.10
7 x 12	1.26	1.89	2.52
7 x 14	1.47	2.20	2.94
7 x 18	1.89	2.83	3.78
7 x 21	2.21	3.30	4.40
7 x 24	2.52	3.78	5.04
7 x 25	2.73	4.10	5.46
7 x 30	3.15	4.72	6.30



Supplied in Gloss Black, Matt Black, Mahogany or Walnut.

Standard and special size panels can be figured approximately as follows: 1/8", 1 1/2c sq. in.; 3/16", 2 1/4c sq. in.; 1/4", 3c sq. in.

Standard size sheets, approximately 37" x 46" and 46" x 70". Prices on sheets and strips 7", 8" and 9" wide on application.

Prices on drilled and engraved panels on application.

CELORON DISPLAY CABINET



A cabinet will be supplied at nominal cost. The cabinet is made of Gum wood, beautifully finished in rubbed walnut.

Make it your silent salesman.

A. CAREY & SONS

CELORON TUBING
Celoron Radio Tube List

CELORON TUBING					
Diameter	Price	Cut to Size	Diameter	Price	Cut to Size
Outside	Per Foot	Per Inch	Outside	Per Foot	Per Inch
1/4	.79	.07	3/4	2.08	.19
3/8	.80	.07	3/8	2.10	.19
1/2	.84	.08	3 1/2	2.16	.20
5/8	.90	.08	3 3/4	2.24	.21
3/4	.96	.09	3 7/8	2.30	.21
7/8	1.00	.09	*4	2.34	.21
1	1.06	.10	4 1/8	2.36	.22
1 1/8	1.12	.10	4 1/4	2.38	.22
1 1/4	1.19	.11	4 3/8	2.42	.22
1 3/8	1.22	.11	4 1/2	2.44	.23
1 1/2	1.28	.12	4 5/8	2.46	.23
1 5/8	1.34	.12	4 3/4	2.50	.23
1 3/4	1.36	.13	4 7/8	2.52	.23
1 7/8	1.38	.13	*5	2.54	.23
*2	1.44	.13	5 1/8	2.56	.23
2 1/8	1.48	.14	5 1/4	2.58	.24
2 1/4	1.70	.15	5 3/8	2.60	.24
2 3/8	1.76	.16	5 1/2	2.62	.24
*2 1/2	1.78	.16	5 5/8	2.64	.24
2 5/8	1.84	.17	5 3/4	2.72	.25
2 7/8	1.92	.18	5 7/8	2.74	.25
*3	1.96	.18	*6	2.80	.25
*3 1/8	2.02	.19	6 1/8	2.82	.26

FIBRE RADIO TUBE LIST

Diameter	Price	Cut to Size	Diameter	Price	Cut to Size
Outside	Per Foot	Per Inch	Outside	Per Foot	Per Inch
1/4	.54	.05	2 5/8	1.08	.10
3/8	.25	.03	*2 3/4	1.14	.10
1/2	.30	.03	2 7/8	1.20	.11
5/8	.36	.03	*3	1.24	.11
3/4	.40	.04	*3 1/8	1.30	.12
1	.50	.04	*3 1/4	1.32	.12
1 1/8	.54	.05	3 3/8	1.34	.12
1 1/4	.60	.06	*3 1/2	1.42	.13
1 3/8	.62	.06	3 5/8	1.46	.13
1 1/2	.66	.06	3 3/4	1.50	.14
1 5/8	.70	.06	3 7/8	1.56	.14
1 3/4	.76	.07	*4	1.62	.15
1 7/8	.78	.07	4 1/8	1.64	.15
*2	.86	.08	4 1/4	1.70	.16
2 1/8	.90	.08	4 3/8	1.76	.16
2 1/4	.96	.09	*4 1/2	1.80	.16
2 3/8	1.00	.09	4 5/8	1.88	.17
*2 1/2	1.02	.09			

Minimum charge on cut tubes is 30c.

Price per foot applies on lengths on 18" long and over.

Price on cut tubes applies on pieces cut to size 22 long and over.

Special prices for cut tubes in quantity upon application.

Dimensions listed are outside diameters and wall of tubes 1/16" thick.

274 KING STREET EAST, HAMILTON, ONT.

Smaller, intermediate or larger diameters and walls can be furnished as required.

Above sizes for immediate shipment from stock.
Popular sizes marked *.

CELORON RADIO TUBING KIT



ERLA BALLOON CIRCOLOIDS KITS

Kit No. *2

This carton contains three circloids which may be attached to any make of condenser and bring set up to date.

Price \$16.50



Kit No. 3

This carton contains three circloids and three Erla 15-Plate Condensers.

Price \$29.25

This kit was developed at the suggestion of many of our dealers who wanted a variety of sizes of Celoron tubing to take care of the large demand for standard standard tubes used in winding coils...

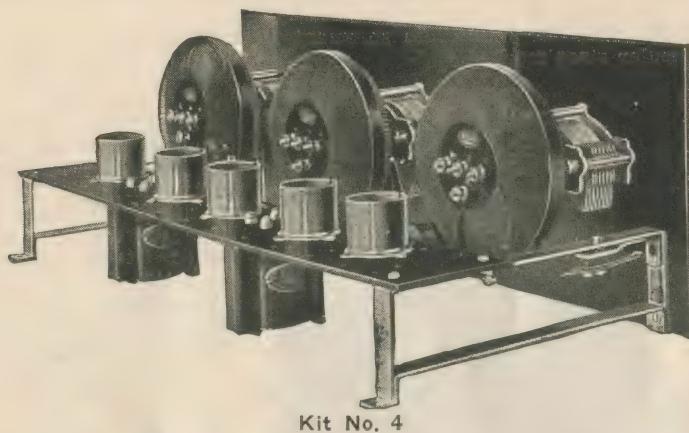
The illustration shows the attractive counter display in which the tubing is supplied.

CONTENTS

57 pieces standard diameters and lengths of Celoron tubing and 10 Binding Post Strips.

Just pick out the size you want.

Price \$36.00



This is the Circloid S Tube Radio Kit just as illustrated complete with Binding Posts, Wires cut to length for wiring complete blue prints Grid Leaks and Condensers, all instruments MTD on Panel, new system of solderless connections, making it simple and quick to wire up.

Price \$66.00

SHAMROCK HARKNESS TWO TUBE REFLEX KIT

The Kit Contains



- 1—T 1 Flexoformer.
- 1—T 2 Flexoformer
- 2—Special Audio Transformers.
- 1—Rheostat
- 2—Single Sockets
- 2—Phone Tip Jacks
- 1—Special Crystal Detector
- 1—Main Panel (completely drilled and engraved).
- 1—Sub Panel (completely drilled and engraved).
- Binding Posts
- Soldering Lugs
- Bus Wire
- Instruction book (with picture hook up and description of each operation in detail).

This set is radio's greatest achievement—a combination of the features of the most powerful circuits in use today. In it you will find the range and selectivity of the Neutrodyne, the volume of the Regenerative, and the clarity that only the Reflex can give.

The performance of this marvelous set is equal to that of any five tube set. It operates a loud speaker with sufficient volume to fill an ordinary large sized room. Its clarity is a revelation; squealing, radiation,

howling and the usual radio noises are entirely eliminated. Tuning is extremely simple and stations can be logged. And the cost of operation is extremely moderate, inasmuch as only two tubes are used instead of five and the battery consumption cost is 60% less than that of any other set which will equal its performance.

Price \$35.00

SHAMROCK TUNED RADIO FREQUENCY KIT

Shamrock Apparatus for Selective Tuning

This Kit contains three specially wound Shamrock Air Core Transformers mounted and specially balanced on U. S. Tool, 11-Plate Variable Condensers, made expressly for Shamrock with just the proper distance between the coil and the condenser to produce absolutely correct field of inductance; also two balancing condensers. This kit also contains a hook-up, a template for properly drilling panel so as to space and mount the unit at the proper angle, and our unconditional guarantee. This kit can be used effectively in all tuned radio frequency circuits.

Price \$24.00



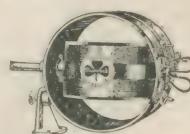
SHAMROCK HARKNESS CRYSTAL DETECTORS

This Detector is a distinct improvement over crystal detectors of the past. One knob control assures both the finding of a live spot and proper tension to keep it set.

Price \$2.00
Separate Shamrock Crystal 50c

SHAMROCK VARIOMETER

Shamrock Double Duty Variometer outstanding features are pigtail connections from rotor to stator coil. Both rotor and stator leads have separate fan-stock connections, permitting use as straight or split Variometer. Floating stop arrangement employed insures a full 360° turn of rotor within the stator. In addition, Shamrock Variometers are wound with green silk-covered wire on Grade XX Bakelite, and will tune up to and over 600 meters.



Price \$4.25

SHAMROCK 180° VARIOCOUPLER



Shamrock 180° Vario-Coupler gives double the selectivity of the ordinary 90° coupler. Outstanding features are angular movement of rotor in scissors fashion, permits cutting out but one line of the primary by the secondary coil at a time. Wound with green silk-covered wire on grade XX Bakelite. Will tune up to and over 600 meters.

Price \$4.25

SHAMROCK OSCILLATOR SUPER-HETERODYNE

Shamrock Acme Reflex Coupler designed especially for reflex circuit. Wound with green silk-covered wire on grade XX Bakelite.

Price \$4.25



Shamrock Oscillating Coupler.—This coupler is designed to suit all designs of super-Heterodyne and modified super-heterodyne circuits. Wound with green silk-covered wire on grade XX Bakelite.

Price \$4.25

SHAMROCK INDIVIDUAL RADIO FREQUENCY UNIT



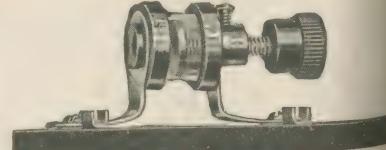
Shamrock Individual Tuned Radio Frequency Unit, consisting of Shamrock Air Core Transformer mounted and specially balanced on U. S. Tool 11-Plate Variable Condenser. Can be used on all tuned radio frequency circuits.

Price \$7.25

Shamrock Harkness Reflex Coils, used in Harkness Reflex Circuits.
Price \$3.60

ELECTRONICS

SHAMROCK BALANCING CONDENSER



Shamrock Balancing Condenser — This instrument balances to the minutest degree hook-ups using tuned radio frequency. Will hold firmly in place after point of balancing has been determined. Bakelite Nob prevents body capacity.

Price \$1.50

Shamrock Triple Circuit Tuner, Price \$5.50

PHONE PLUGS, ETC.

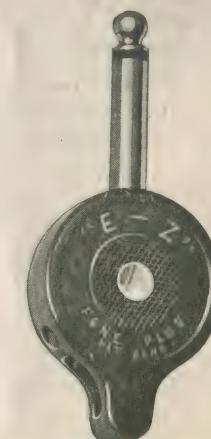
Philmore Automatic Single Plug, Price	45c
Philmore Double Phone Plugs, Price	50c



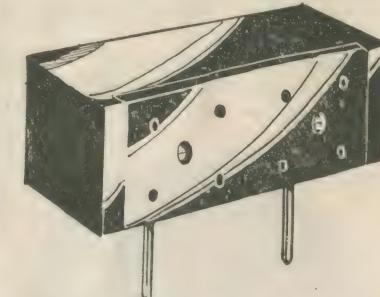
Murdock Multiplug
Price \$1.50



Famous Polyplug
Price 65c



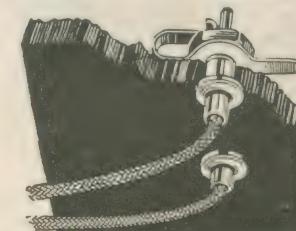
Polymet E. Z. Plug
Price 45c



Clarion Multiplug to connect
Four Pairs of Phones to Radi-
ola III or III-A Sets.
Price \$1.25



Barkley Four Phone Plug
Price \$1.25



Union Phone Tip Jacks
Price, per pair 35c



RHEOSTATS, POTENTIOMETERS, ETC

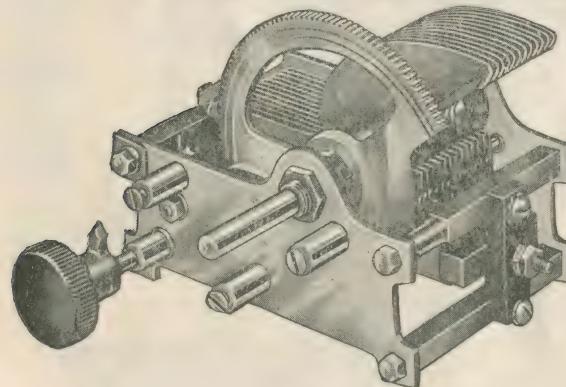
Ajax 6 ohm Rheostat, Large Nob.	Price	75c
Ajax, 30 ohm Rheostat, large Nob.	Price	75c
Ajax 200 ohm Potentiometer, large nob.	Price	85c
Ajax 400 ohm Potentiometer. Large nob.	Price	85c

RESISTANCE UNIT

Resistance Unit for Rheostat
Price 25c



Marconi Straight Line Frequency Condenser



VARIABLE CONDENSERS

Morconi Straight
Line Frequency
Vernier Condenser
for accurate tuning
Price \$7.50

SIGNAL PLAIN VARIABLE CONDENSERS

Signal, 3 Plate, Vernier. Price	...	...	\$1.65
Signal, 5 Plate, Cond. Price	...	...	1.75
Signal, 11 Plate, .00025. Price	...	...	2.00
Signal, 13 Plate, Cond. Price	...	...	2.15
Signal, 21 Plate, .0005. Price	...	...	2.25
Signal, 43 Plate, .001. Price	...	...	2.50

SIGNAL VERNIER VARIABLE CONDENSERS

Signal, 11 Plate, .00025. Price	...	...	\$4.90
Signal, 21 Plate, .0005. Price	...	...	5.25
Signal, 43 Plate .001. Price	...	...	5.65

SENSORY DIAL

SENSORY GEARED VERNIER DIAL, BUILT LIKE A CLOCK

In the new Sensory Vernier Dial there is neither backlash nor lost motion. According to unbiased comment from more than 200 radio engineers, jobbers, dealers, set manufacturers and amateurs to whom it has been personally shown in the district between the Mississippi River and the Atlantic Coast, it is the biggest sensation of the season in radio parts.

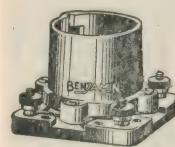
Briefly, its final perfection is based on the following exclusive features:

- 1—Only a screw driver needed to install it on any length shaft.
- 2—Gears built of brass and aluminum alloy, alternating to prevent wear.
- 3—Worm driven principle of cog adjustments eliminates lost motion.
- 4—Gear ratio is one to seventy-six.
- Semi circumference of 180 degrees carries a marking for each degree.
- 6—Capable of being turned but the width of a hair, it remains set.

Price \$2.50

TUBE SOCKETS AND ADAPTERS

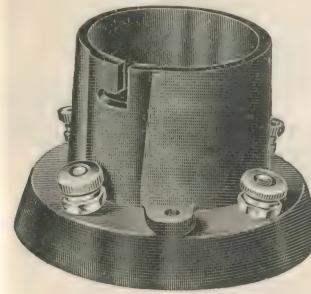
BENJMAN SOCKETS



Benjman Clear Tone Standard Spring Cushion Socket	\$1.25
Benjman Clear Tone UV-199 Spring Cushion Socket	\$1.25

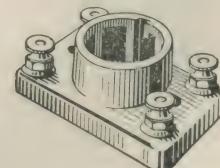
BELL SQUARE SOCKET

Bell Square Moulded Bakelite Socket, either
base or panel M T G Side and end Contact. Price \$1.10



BELL ROUND SOCKET

Bell Round Moulded Bakelite Socket, side
and end contact. Price 60c



BELL 199 SOCKET

Bell Moulded Bakelite 199 Socket. Price 50c



WATERBURY SOCKETS

Waterbury Standard Bakelite Base
Socket, Price 40c

Waterbury Peanut Tube Socket.
Price 35c

H. & H. SHUR GRIP SOCKETS

H & H Shur Grip Rubber Cushion Socket. Price 85c

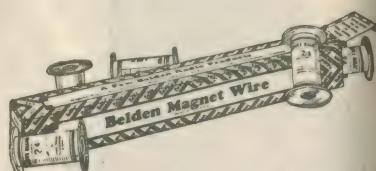


HARCOURT ADAPTERS

Harcourt Adapter for Peanut Tube. Price . \$1.00

MAGNET WIRE, LOOP AND AERIAL WIRE

MAGNET WIRE S. C. C.



No.	1 lb.	1/2 lb.	1/4 lb.
18 . . .	\$.85	\$.50	\$.30
20 . . .	1.00	.55	.32
22 . . .	1.10	.60	.35
24 . . .	1.35	.75	.40
26 . . .	1.55	.85	.50
28 . . .	2.00	1.10	.60
30 . . .	2.65	1.50	.80
32 . . .	3.55	1.95	1.10

MAGNET WIRE D. C. C.

No.	1 lb.	1/2 lb.	1/4 lb.	26	28	30	32	2.00	1.15	.65
18 . . .	\$1.15	\$.55	\$.35	28	28	30	32	2.55	1.40	.75
20 . . .	1.30	.65	.40			30	32	3.50	2.00	1.20
22 . . .	1.40	.75	.45				32	4.75	2.65	1.50
24 . . .	1.70	.95	.50							

MAGNET WIRE, DOUBLE SILK COVERED

No.	1 lb.	1/2 lb.	1/4 lb.	26	28	30	32	4.45	2.55	1.40
18 . . .	\$2.20	1.20	\$.55	28	28	30	32	5.90	3.25	1.70
20 . . .	2.30	1.30	.75			30	32	7.30	4.00	2.25
22 . . .	2.30	1.30	.75				32	8.60	4.80	2.75
24 . . .	3.55	2.00	1.15							



BELDEN LOOP ANTENNA WIRE

Fashion B, 60 Strands No. 38 Copper Wire, Double
Cotton Covered, Maroon, 125 ft. Spool Price \$1.25

Floor B, 60 Strands No. 38 Copper Wire, Green,
Double Silk Covered, 125 ft. Spool. Price . \$2.40

Grizzly B, Litz Wire, 100 ft. Spool. Price . . \$1.25

HEADPHONES AND CORDS



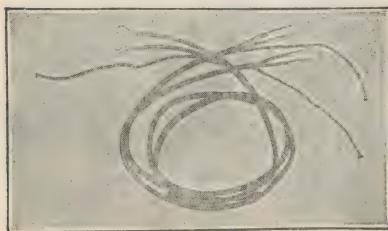
Embassy Phones



Cannon Ball Phones

Cannon Ball Standard Phones. Price	\$4.75
Cannon Ball Junior Phones. Price	\$3.75
Pacent 2,200 Ohm Phones. Price	\$5.00
Pacent 3,000 Ohm Phones. Price	\$5.25
Embassy Standard Phones. Price	\$5.00
Starco Standard Phones. Price	\$4.00
Brown 4,000 Ohm Featherweight Phones. Price	\$6.50

Brandes Matched Tone Phones. Price	.....	.....	\$6.25
Brandes Navy Type Phones. Price	.....	.....	\$8.00
Benjman Super Sensitime Phones. Price	.....	.....	\$4.50
Baldwin Type C Phones	.....	.....	\$14.00
Singde, 5 feet, Loud Speaker Cord. Price	.....	.....	50c



PHONE CORD

Double Phone Cords, 5 feet. Spade	.....	.....	.....
or Phone Tip. Price	.....	.....	65c

BISBY EXTENSION CORD

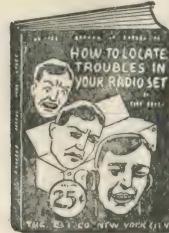
Plain. Price	.....	.....	.....	\$1.15
With Connector. Price	\$1.65



BELDEN RADIO EXTENSION CORD ..

Price, per 20 feet	90c
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RADIO BOOKS AND BLUE PRINTS



25c Series

How to build a Neutrodyne Set.
 How to make a Radio-Phone Receiving Set.
 Radio Questions Answered
 Radio Frequency Amplifiers and How to Build Them.
 Loud Talkers and How to Build Them.
 How to Tune Your Radio Set.
 One Hundred Radio Hook-ups.
 All About Radio Parts.
 History and Operation of Vacuum Tubes.
 How to Build a Portable Receiver.



RADIO DIAGRAMS

50c Series

Radio Map of the U. S. on Cloth.
 How to make the S. T. 100 Receiver.
 How to make an Autoplex Receiver.
 How to make a Neutrodyne Receiver.
 How to make a Reinhartz Receiver.
 How to make a Reflex Receiver.
 How to make a Cockaday Receiver.
 How to make a Short Wave Regenerative Receiver.
 How to make a Radio-Phone Crystal Set.
 How to make Detector and Amplifier Units.
 All about Aerials and Their Construction.
 14 Radio Formulae and Diagrams.
 24 Radio Diagrams and Hook-ups.

RADIO BOOKS

The Genuine Standard Super-Heterodyne Blue Print and Instruction Book. Price	.....	.....	.....	\$1.10
Radio News, Amateurs Handbook. Price	.....	.....	.....	\$1.00
Radio For All. Price	.....	.....	.....	\$2.00
The How and Why of Radio Apparatus. Price	.....	.....	.....	75c
Wire-less Course in 20 Lessons. Price	.....	.....	.....	\$2.00
Experimental Electricity Course in 20 Lessons. Price	.....	.....	.....	\$1.25
A Thousand and One Formulae. Price	.....	.....	.....	\$1.50
Radio Reading Course in 5 Volumes. Price	.....	.....	.....	\$1.25
Radio Broadcast Listener's Book of Information and Log Record with complete List of U. S. Broadcast Stations. Price	.....	.....	.....	50c
American Radio News. Price	.....	.....	.....	25c
Canadian Radio News. Price	15c
Radio. Price	15c
Shamrock Radio Builder's Guide Book. Price	25c

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